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THE MENTAL AND PHYSICAL HEALTH OF SCHOOLCHILDREN

SANGER BROWN 2D, M.D.

NEW YORK

While knowledge of the subject of the mental and physical health of schoolchildren is steadily increasing, there is still much to be learned in these directions, particularly in the field of mental hygiene in the schools.

It is true that the great majority of children do reasonably well in the schools of today, both public and private, but the fact remains that a certain percentage get along indifferently, or not at all. Of this small group, some are physically below par, some acquire slowly, some are remarkably brilliant and some have the makings of genius in them. The remarks in the following pages apply particularly, though not exclusively, to the small group. Granting both the limitations and the potentialities of these children, special education has as yet failed to meet their entire needs. Education, medicine, mental hygiene and social hygiene should unite to solve the problem.

The observations discussed here are based on a physical and psychologic survey of 150 schoolchildren. These children were in a special school, a probationary school, and were there for observation because they had had difficulties in the class and had failed to make progress in their studies. The survey, therefore, was chiefly to determine the mental characteristics of these children, but a complete physical examination was made of each child and physical defects were recorded.

These children, in addition to being backward in their studies, were not getting along well with either the teachers or the other children. They were beginning to show traits of character which, if they persisted, would be detrimental to their future. The main problem in many instances was to determine the best means of finding out how certain limitations and handicaps were to be overcome or eliminated, in order to make these children successful, at first in the relatively simple relationships of school life and later in the world at large.

Children of this type are often spoken of as difficult or unusual. They are nervous and sensitive. Often they have unusual temperamental traits, and they do not have interests which are common to the majority of children. Their parents realize that some difficulty exists, but they are not sure just what it is. With some teachers, they may get along well; with others, not at all. Children presenting these difficulties exist in all families, whether rich or poor. They are met in city life and in country life, and the condition is not peculiar to the present generation.

Such children give rise to many speculations. One wishes to know whether these nervous states and minor troubles are the expression of some difficulty, inherent in the mental makeup of the child, or whether they are the result of bad management. One asks whether there is something unfavorable in the home or in the method of teaching, as applied to this particular boy, which results in failure. If the latter is the case, the condition cannot be considered inherent but is acquired, and can be corrected. One wishes to know their future. Is this condition a passing phase, or is character fixed in these ways if the difficulty continues? Could similar symptoms seen in adults have been recognized during childhood, and could these tendencies have been corrected in the beginning? One cannot answer all of these questions, but facts exist which contribute to the subject. Such questions do not pertain solely to teaching and school life. They have to do with public health, preventive medicine and community welfare.

EARLY DEVELOPMENT AND THE SCHOOL

After a child has reached the age of 4 or 5 years and goes to kindergarten, the way in which he gets on with other children, even during these early years, will depend very much on his previous development. This is apparent if one considers the early developmental period of a child's life, in physical, mental and social directions. From the physical standpoint, he goes through many stages. He learns muscular coordination of trunk and extremities, grasping things with his hands, holding up his head, creeping and walking. Sensation becomes acute and localized in the course of time. The faculty of speech develops through all its stages. During this period, the child not only cuts his teeth but also learns to eat, at first a simple, later a varied, diet. Then comes conscious sphincter control, and suitable habits of sleep. He gradually gains precision in movements and in the use of his extremities. Movements at first awkwardly performed are in time done skilfully. A steady gait develops; the child learns to dress himself; speech becomes clear, and, as finer movements of the hands become coordinate, he shows more precision at his games.

While this physical development is going on, he gradually develops in intelligence. He learns the names of things about the house, how they are put together and what they are used for. His vocabulary enlarges; he begins to understand a few abstract ideas, and he learns to read a little. During this period of purely physical development and of broadening the field of intelligence, he begins to learn something of his relations to other people. He cannot always have his own way when this inconveniences others. He learns patience and self-control. His games are modified in accordance with the way they may affect others.

The child, then, accomplishes much in the way of development before he has reached the age when he is to mingle much with other people; and if he fails in this respect it becomes evident. If muscular coordination is poor, he fails in games. If his speech develops badly and he stutters, he is handicapped. If he refuses certain foods, he may become ill-nourished, and have poor muscular development. If he is irritable, suffers from sleeplessness or cries easily, he becomes too dependent. If he is slow to learn, he falls behind and is regarded as stupid. If he has not learned the usual ways of give and take in play, he is often in trouble. He has to learn to obey, regardless of his own feelings. He learns all these things during an early period in life and before his nervous system has gained the stability which it possesses in later years.

All these may seem to be a formidable array of difficulties. Such things, however, are only a part of normal development, and with the great majority of children, these changes take place without either they themselves or their parents being in the least aware of them.

The success with which this early development in physical, mental and social spheres is accomplished is tested, in most cases, when the child enters school; for whether a school is large or small, public or private, his ability to get along with other children will be determined.

The school, especially the public school, is a test of the adaptability of the child. Most public schools, and some private schools, are made up of relatively large classes, from twenty-five to fifty pupils. The outstanding feature in the general administration of these classes is conformity to set standards. In the school, conformity to a routine is an integral part of the system. The child must arrive promptly; he must do things in conformity with others; he must respond accurately to directions in the classroom. Individual action on his part upsets the class and causes confusion. Studies are all outlined and the degree of advancement is regulated, month by month. The child should not be too slow in acquiring knowledge, and he cannot progress more rapidly than the others. In school advancement, he must conform to standards as established by the curriculum.

There are still other ways in which he must be in harmony with the others in the class. This conformity is not established by the school authorities but by the children. A boy must fit in with the group. He must be agreeable in games and share the interest of others. If he has any special failings in physical or mental ways, it will be found out. He must take his place as a leader or a follower and govern himself accordingly.

These are some of the features of any school system. Anyone familiar with this organization must be struck with its similarity to a military organization.

Some people advocate changing the school system since certain children fail under it. They feel it is too rigid and too inelastic. They suggest a system that will individualize. These changes will probably be gradually introduced into educational organizations, but at present most schools are formal in type. For the children under discussion this formality of education is far from satisfactory. They not only fail to acquire knowledge, but they also get out of sympathy with everything and fail to develop normally.

What arrangements can be made in the matter of special education of these children? To answer this question, we must find out more specifically the nature of their troubles in school.

At one time, it was thought that mental defect was the basis of most of the difficulty. Reports were made which showed that from 60 to 80 per cent. of the conduct disorders of children were attributable to mental defect. It is now known that this is not the case. Some difficult children are found to be defective, but by no means the majority. Some have pointed out that improper home environment, hardships, poverty and neglect are the causes of these conditions in children. This is doubtless true; but difficulties with children are found among the rich as well as the poor.

Some have called attention to physical disorders and malnutrition. It is true that some difficult children suffer from malnutrition; but some of them are perfect physical specimens.

In the spring of 1919, the public school authorities of New York invited the National Committee for Mental Hygiene to make an investigation of this subject. It was decided to conduct the study in one of the probationary schools of the city to which children were sent for observation. The survey dealt with various phases of the subject. The staff consisted of a physician, a psychologist and a social service worker; each child was made the subject of investigation from several standpoints: physical, psychologic and environmental. Such a survey cannot presume to answer all questions which arise as to adjustments of children, but an attempt is made to call attention to the most obvious difficulties. The particular conditions which will be discussed are: 1. Nervous instability in children. 2. Intelligence tests. 3. Physical defects. 4. Methods of examination and of treatment.

NERVOUS INSTABILITY IN CHILDREN

Nervous symptoms are much more common during childhood than is generally recognized. These symptoms appear in various ways. Children who are irritable, who sleep poorly, who learn slowly or who are oversensitive are often unstable nervously.

Nervousness is also common in adults. Many people, particularly in this country, suffer from minor neuroses. They appear perfectly well, and indeed they are not invalids, but they are not absolutely free from nervous symptoms. A knowledge of the minor neuroses is important in understanding the psychology of children. A child may be regarded as perverse, obstinate or incorrigible, when he is suffering from nervous symptoms and is liable to be sensitive and irritable.

What are the nervous symptoms of childhood? They are numerous, and they find expression in a great variety of ways. Perhaps one of the most common neuroses symptoms of childhood is overactivity. The minds of some children are teeming with ideas, and physically, too, they are overactive. They are overstimulated by such things as moving pictures or exciting stories, and they exhaust themselves nervously. Sometimes children of this type indulge in all sorts of romances and fabrications. A certain amount of this is normal during childhood, but extremes of it indicate an overactive brain. Disorders of sleep are expressions of instability. Nervous children have night terrors, play out their games in their sleep, and cry out. Sleep walking, which is particularly common in childhood, is but another symptom of this same general order.

These children are, of course, fretful, irritable and unduly sensitive. Their feelings are easily hurt and they cannot control their tempers. They are impatient and they are difficult both in school and at home. Disobedience follows attempts at discipline.

Other minor symptoms are seen. Among these may be mentioned tics, habit spasms, gestures, nodding of the head, blinking the eyes, grimacing, twitching of the mouth, tremors or twitching of the hands or of the legs and peculiarities of gait.

Sometimes the origin of these conditions is easily found. Occasionally, they are the result of suggestion or of imitation of another child. One frequently finds very simple causes for these conditions in children. Whether they will be subject to similar symptoms in later life is difficult to say; probably this depends to a considerable extent on their management.

Nervous states in children may be of psycholgic origin. Children often learn habits of invalidism from over-anxious mothers. Emotional scenes and shocks may make a profound impression on them, and, if repeated often enough, are lasting in their effects. I know a little boy, aged 6, who was extremely nervous for months following a sensational murder near his home. Family discord of any kind is conducive to nervous trouble in children.

As a factor causing mental instability during childhood, considerable emphasis has been placed on questions of sex even in very young children. It is true that one finds in children much curiosity and interest about sex; many children ruminate about the subject a great deal. It is probable that such interest and curiosity should be considered normal, unless it takes on some unusual manifestation. Children vary greatly in the amount and accuracy of their knowledge of sex. A few children have full knowledge and even sex experience before puberty. Some have very distorted knowledge. A few practice masturbation to excess. This is not the cause of a great number of neurotic states in children, despite statements which have been made to the contrary. However, when excess sex stimulation takes place before puberty, the condition is disturbing physiologically, and if this stimulation continues over a long period, the child may show evidence of nervous exhaustion, and develop psychoneurotic symptoms. While sex activity is harmful before puberty, its occurrence should not be regarded as a calamity, and hygienic rather than moral issues should be emphasized.

It is not difficult to see how these nervous symptoms, both those of the physical and those of the mental sphere, make for poor work in school. A sick child, or one who is half sick cannot conform to discipline. He is unduly sensitive and appears to be irritable and perverse. He is in no position to take his place in the class or enter into the life of the school.

Cameron [1] says somewhat optimistically, of these nervous types:

> A sensitive nervous organization is often the mark of intellectual possibilities above the average, and the children who are cast outside the ordinary mold, who are the most wayward, the most intractable, who react to trifling faults of management with the most striking symptoms of disturbance, are often those with the greatest potentialities for achievement and for good. The mother of the nervous child may often rightly take comfort in thought that her child is worth the extra trouble and the extra care which he demands, because he is sent into the world with a mechanism which, just because it is more powerful than the common run, is more difficult to master and takes longer to control and to apply for useful ends.

In this survey, nervous symptoms were found in a higher percentage than was expected (20 per cent. in the group). Epilepsy was found in four instances. The other cases showed various nervous symptoms. One boy of 10 years was in a constant state of anxiety and fear, and was always looking for some impending danger or disaster. This, of course, made it impossible for him to acquire knowledge. The condition was very similar to that which one sees in hyperthyroid states, although he had no symptoms of glandular disease.

Another boy suffered from malnutrition, and had had rickets in early life. He walked in his sleep, had night terrors and could not sit quietly in school. He came from a particularly bad home environment. He was of good intelligence and pleasant personality.

One child, aged 10, was very mischievous and overactive, and was constantly playing little tricks, joking, and could not be controlled in the regular classes. He was out on the street at night and was disobedient at home. His was a case of overactivity, resulting from too much excitement at home.

There were three boys who had somewhat similar nervous symptoms, apparently from very similar causes. All three had been subjected to undue sex stimulation before puberty, a full knowledge of sex being gained through association with older people. These boys suffered from sleeplessness and were nervous and inattentive at school. They were also delinquent, and had been involved in thieving on a number of occasions. Treatment in a special hospital would probably have benefited them greatly.

In several cases, stammering was associated with other nervous symptoms, such as sleep walking, night terrors and lack of emotional control.

The treatment of nervous conditions varies with the cause. Not infrequently a highly nervous state in children of many months' standing follows some acute physical illness, such as measles, scarlet fever, meningitis or whooping cough. This nervous state in children is comparable to neuroses seen in older people. The treatment here is quite clear. The child should have more rest than he would otherwise take. For overactivity, baths of body temperature at night, of from twenty to forty minutes' duration, are useful. Food should be taken between meals. Improvement frequently folllows gain in weight. Forced feeding and a liberal amount of rest and fresh air in the country, without too much school work, generally restores these cases to normal health. Occasionally, such cases last six months or a year, and may continue much longer.

Some children become nervously unstable through undue fear of competition in school. A child who learns slowly and is in a class where the others learn rapidly is at a disadvantage, and he is likely to become distressed. One often sees many minor nervous complaints, such as stammering, blinking the eyes, quick temper and sleeplessness in situations of this kind. In these instances it may be necessary to change the school or change the class. These children cannot get along in a large group.

Environment is not infrequently the cause of nervousness in children. Sensitive children may become stimulated in a large household where there is much entertaining and a great deal of coming and going. They are fatigued; when night comes, they are restless, and talk in their sleep, and they are exhausted in the morning. What is true of the home is true of the neighborhood. Games, as well as books or entertainment, may be overstimulating. Worry at home on the part of either of the parents is often conducive to nervousness in young children.

1. Cameron, H. C.: The Nervous Child, New York, Oxford University Press, 1919.

In some cases, nervousness is due directly to ideas which sensitive children become distressed about. Matters of religion occasionally perplex children. At times oversensitive children feel that they are being unjustly disciplined at school. I have seen children become greatly distressed over a period of many months because, rightly or wrongly, they thought the teacher was not treating them fairly. In cases of this kind, it is highly desirable for the physician to talk over the matter alone with the child. Dr. William P. Healy of Boston has described these conditions in detail, and he clearly shows that marvelous improvement may result from even one frank interview.

INTELLIGENCE TESTS

A surprisingly large number of difficulties with school children arise from the fact that they are not graded properly in classes. In most schools, children are graded in classes according to their age, and not according to their degree of mental development or capacity to learn, which is quite a different thing. Some children are far above their age in mental development and some are far below. Thanks to the work of Alfred Binet of France, and his followers, notably Terman of this country, this degree of mental development can be established very definitely. By studying thousands of children, psychologic tests have been standardized, and they are reliable when properly performed and interpreted. They, of course, measure intelligence only, and not temperament, emotional control or character.

The Stanford revision of the Binet-Simon test has been scaled in such a way that not only are the number of years and months of mental advancement or retardation measured, but in addition the child is rated on the basis of what is known as his "intelligence quotient." This intelligence quotient, with 100 per cent. as the normal, is determined by dividing the mental age by the actual age. On the basis of the intelligence quotient, by tests of thousands of children, both normals and variants from the normal, these results have been established. Children obtaining a rating of from 90 to 110 are, in general, of normal intelligence; those with a rating over 110, ranging at times to 125 and 150 or higher, are rated as possessing superior intelligence; those between 80 and 90 possess normal intelligence, but are of dull mentality; those between 70 and 80 are rated as borderline; that is, it is difficult to state whether mental defect exists or not. Those rating below 70 are mentally defective, unless some unusual circumstance exists to explain the low rating.

In practice, these findings work out well. That is, children who are found to be defective by the tests are, as a rule, so considered in the school by teachers competent to judge. The test generally agrees with common observation, if those observations are carefully made.

As a result of tests, children have been classified psychologically according to their intelligence, thus: Mentally defective children, which term has long been in use; "dull" children; normal children, and those with superior intelligence.

Of the group first mentioned, the mentally defective children, many variants are seen. Some are model children who cause no trouble in class and are not delinquent, although they learn very slowly. Others are nervous and irritable, having nervous symptoms such as sleep walking, night terrors and habit spasms. Mental defect probably predisposes toward these symptoms. Defective boys are often below par physically. They have narrow chests, stooped shoulders, and other anomalies. At times, however, they are good physical specimens.

The second group mentioned, the dull boys, while not defective, make a poor showing in the class room. They are often lacking in initiative. They are slow in school problems and instead of getting 100 per cent. in the psychologic tests, their score is between 80 and 90. Although the teachers may make a persistent effort to carry them along, school subjects are distasteful to them because they learn so slowly. They often grow rebellious against discipline and the teacher believes that they are perverse and obstinate. These boys frequently play truant solely because they are not interested in school. This is the opening wedge for other misconduct. While dull in school work, they are almost up to average in other ways. They should not be kept at book work beyond the sixth or seventh grade. They should then be given manual education. These children contribute largely to the failures of adult life, and their inadequate early training is to a considerable extent responsible.

Just how these dull children turn out in after life is not known. Dr. H. H. Goddard, in "Human Efficiency and Levels of Intelligence," maintains that efficiency and success in life is largely dependent on intelligence, and failure is due to lack of it. One doubts if this is exactly the case. Many people with high intelligence do not succeed; while others with inferior intelligence, through their pleasing personality and adaptability in getting along with people, do relatively well. However this may be, the boys who cannot learn academic subjects beyond a certain grade should be put to something else.

Physical Defects Found in One Hundred and Twenty Schoolchildren *

	Cases		Cases
Malnutrition and nutritional disturbances	26	Defect of nervous system	5
Skeletal defect	20	Defective nasal breathing	19
Poor muscular development	21	Hypertrophied tonsils	69
Defective vision	52	Pulmonary diseases	0
Defective hearing	7	Cardiac diseases	2
		Defective teeth	65

* Some children had several defects.

Certain children are said to possess superior intelligence by psychologists because of their high rating in the tests, and because of their rapid progress in school. In certain schools, these children have been placed in separate classes and have advanced very rapidly indeed.

An enthusiast at a recent lecture predicted that these advanced children were destined to be the leaders of the world, because of their superior intelligence. Some of them may, and some may not. Teachers have pointed out that, while they are advanced in class work, a certain number of them have poor emotional control and are quite childish with other boys, and a number of them are not strong physically. They should, however, be given the training in school that they are best fitted for. Doubtless, intelligent children waste many hours because they are kept back by the duller ones.

Psychologic examinations have suggested the reclassification of children in schools. By these tests, they are classified according to mental age and the way in which they make progress in their studies. This is an excellent plan, and when it is adopted throughout the schools, as it doubtless will be, it will do away with much of the discontent, uneven progress and trouble with

discipline which exist at present. It will not solve all problems in the school, but the classification of children in grades according to their ability to acquire will be a wise procedure.

It should not be inferred that all cases in the above mentioned group with nutritional disturbances were below normal weight for their age. Some were normal in weight, even excessively fat. But they were pale, with pasty skin; the expression showed fatigue; the extremities were blue, and there were other evidences of faulty metabolism. Some were getting an unsatisfactory diet, consisting to a great extent of starchy foods, with lack of protein. An insufficient lunch or very little breakfast accounted for headaches and fatigue in a number of the younger children.

The skeletal defects were of various types; some postural, with or without spinal curvature. Some of the children had faulty chest development, others had imperfect results following operation for injuries or fractures of the extremities. Certain defects, while not incapacitating, contributed to ill health in various ways.

Twenty-one children had poor muscular development, not necessarily as a result of insufficient exercise, but associated with poor nutrition.

Routine examination by the oculist showed that fifty-two of the children had some type of visual defect, such as astigmatism, myopia or hyperopia of varying degrees of severity. In some cases, glasses were not indicated, as the defect was very slight. In others, glasses were needed but the children refused to wear them, as they thought them an evidence of weakness or ill health. A few cases of defective hearing were found, the result of a former otitis media.

Defective nasal breathing was found in nineteen cases. In some instances, this was a mild defect caused by a deviated septum.

There were sixty-nine cases of enlarged tonsils. Some of these children had had several attacks of tonsillitis, and removal of tonsils was therefore indicated. In many of the cases, the tonsils were only slightly enlarged, apparently causing no symptoms. Removal would not be recommended by most authorities in such cases. With a number of children, when enlarged tonsils were associated with difficulty in nasal breathing, there was restlessness at night, and night terrors, attributable to the interference of free passage of air.

These children had all been carefully examined for pulmonary disease some time previously, and no active cases of tuberculosis were found.

To what extent is the welfare of the mind influenced by the state of physical health and well being? If a child is in an unsatisfactory physical condition, he is likely to suffer correspondingly in mental spheres. However, some children with excellent physique, and without physical defects of any significance, are in a far from satisfactory mental condition. Again, a child may have a number of physical defects, but these may have no bearing on the psychologic problem he presents.

In interpreting disorders in children, it is well to have all these variations in mind. On the one hand, we should not have our attention focussed on upsetting psychologic factors, to the exclusion of the physical; on the other, we should not be ready to accept physical defects as the only factors in all cases. It should also be appreciated that a physical defect of relatively minor importance in an adult may cause more serious symptoms in a child. Thus, interference with nasal breathing in an adult is uncomfortable, and predisposes to colds and infections; it may not amount to more than this. But with the child, it interferes with play and with sleep, and renders him morose and irritable, and unable to apply himself to his lessons.

Poorly nourished children suffer in a particular way mentally. They are not necessarily retarded; indeed, they often appear to be overstimulated and overactive; but they are emotionally unstable and have nervous symptoms. With improved nutrition, these symptoms subside, and a change in temperament and disposition becomes evident.

Knowledge of the structural development of the body has advanced considerably in recent years, although it is still far from complete. We have always known of certain developmental disorders, as, for example, the underdevelopment which results from thyroid deficiency; but recent studies have carried us farther than this. We know now that the overfat boy is not fat because he has an enormous appetite or eats too many sweets, but because his glands of internal secretion or their nervous mechanisms are not functioning properly. We know that the growth of long bones is dependent on glandular activity, and that the development of sex organs and sex characteristics is controlled by glands of internal secretion.

The organs which preside over body structure are of importance in the development of the mind. Few definite facts are known of this influence, and there has been much speculation. We know that deficiency of thyroid gland not only influences body development, but also retards mental processes. Excess of this secretion accelerates mental processes and causes nervousness. Certain disorders of the pituitary gland are associated with mental dulness and retardation. Some have speculated much farther, and would associate most activities of the mind, such as emotions, temperaments, and conduct, with the glands of internal secretion. We are not in a position to make final statements about a physical basis for these qualities of the mind, and further investigations are necessary.

METHODS OF EXAMINATION

It may be of interest to review briefly the method of examining a child in these various directions.

It is well in the beginning to get a concise statement from the parents and teachers as to what, in their opinion, the difficulty is. They may state that the child is nervous and irritable, is fatigued easily, lacks concentration, has trouble with other children and is poor in his studies.

It is then necessary to get a history of the family. One learns in this way what the home environment is, and also what the other children are like. One inquires how the other children get along in school; whether the father and mother are healthy and strong, and whether there is much nervous instability or disease in the family. This gives a background which may be of value, or which may throw very little light on the situation.

Next, one obtains a full history of the child. The condition at birth and during early infancy, the age of walking and talking, illnesses, nutrition, and so on are inquired into. Then one obtains the school history, including school progress and promotions; facts as to how the child gets along with others in games, whether he is active or solitary, whether he requires much discipline or little; in other words, what his personality is like and what the teachers think of him.

Next, one inquires carefully into the nervous symptoms mentioned above, which, because of their importance, may be mentioned again: quick temper, irrita-

bility, nail biting, enuresis, sleep walking, night terrors, habit spasms, tics, blinking, stammering, fatigability, depression, undue sex knowledge and excitement. Then, inquiry is made as to the home environment and about any delinquency or misconduct which may have occurred.

On first seeing the child it is well to make the medical examination at once because children expect this from a doctor. In the course of this examination, one can learn by direct questions how the child gets along at school, how he likes his teacher and how he likes the other boys. It is often possible to gain his confidence and learn all about any difficulty both in the school and at home in this direct way. It is well to have the child alone, as children will seldom talk freely before two or three people. This frank talk may be the most important part of the examination.

When the psychologic tests are performed, the examination is complete. These tests, to be of value, must be made by some one who has had careful training in giving them. It is necessary for the examiner to be alone with the child and free from interruptions. The test generally requires from one to two hours. Experienced examiners know at once whether nervousness, shyness or other mental conditions interfere with the value of the test, and they report accordingly. Tests by amateurs are not only valueless, but also misleading.

The management of nervous children requires not only the medical measures mentioned above, but also a particular kind of education. These children are usually diffident, and they come in for a good deal of hazing of one kind or another from other children. The teacher may not have time for a child who does not learn easily, and these children drift from one school to another, thoroughly discouraged, the despair of teachers and parents. In many instances, one finds that the preparatory school, the college and even the profession has been decided on far in advance. The father is loath to give up these ambitions.

Parents must realize that, while plans must be changed, the change will make for gain rather than loss. The child is not a failure because he cannot travel along beaten paths. Nervous children are better away from home because parents are almost sure to urge them beyond their capacities. The selection of the right school is very important. A military school, in my experience, does not bring good results because firmer discipline increases rather than modifies the symptoms.

There are certain schools in which the principal or head master is able to make special teaching arrangements for some of these children. In such a school, these boys improve from the start. The head master realizes that discipline must be used moderately and judiciously; he realizes that class progress is not the most important thing, until mental stability is gained. In time, the nervous tension subsides; the worried look disappears from the boy's face; he begins to sleep at night; he is able to concentrate again, and so he is able to learn more easily. This may take many months, but success may be confidently expected.

I recall a boy in an excellent preparatory school who had been regarded a "dunce," as the mother said, for three or four years. He made no progress at all and was the despair of everyone. By examination, he was found to be a neurotic child. The psychologic tests showed that he was not a dull boy, and that his intelligence quotient was over 100, or average. He was taken from home; his nervous symptoms were treated, and at a special school, in the course of a few months, he made excellent progress.

Those children who have no nervous handicaps such as the foregoing, but are nevertheless slow in their studies and make a low record by psychologic tests, are in a somewhat different category. Here, again, although reluctantly, certain ambitions on the part of parents must be set aside. These children do not acquire very readily through books. They are generally manually minded, and they do not get further than the beginnings in high school, or perhaps not that far. As little boys, their minds are developed through manual education. This training, which consists of various forms of shop work, is not to make artisans of them. It is to develop the mind through the use of the hands.

After the age of 11 or 12, often earlier, in the case of these particular children, manual education should be introduced. They waste their time in regular classes, with no manual training. The need of this is being recognized more and more in the best schools. Children who do not learn academically should not squander their youth and waste their time with academic studies beyond the point where they can acquire. These educational handicaps explain why a number of boys fail when they should succeed. Fortunately, such handicaps are being overcome by special forms of education in many of the better schools of today.

173 East Seventieth Street.

ANEURYSM OF THE THORACIC AORTA AS A CAUSE OF ACUTE ABDOMINAL PAIN

REPORT OF CASE *

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In the textbooks on medical and surgical diagnosis, recognition of acute surgical conditions in the abdomen is usually assumed to be easy. Difficulty is acknowledged only in the preoperative differentiation of grave accidents, such as perforated gastric ulcer, perforation of the gallbladder, acute pancreatitis and mesenteric thrombosis. But the fact that thoracic disease may produce symptoms of acute surgical conditions in the abdomen is inadequately discussed.

That pneumonia may simulate acute appendicitis has long been known, and more recently Fussell and Kay [1] have reported cases of pericarditis diagnosed as acute appendicitis. Cases of angina pectoris, with symptoms of pains in the epigastrium after eating, or on exertion, may resemble gastric ulcer or gallbladder colic, but the short duration of the pain and its relation to exertion rather than to the digestive cycle are usually sufficient to prevent diagnostic mistakes. That slow leakage from an aneurysm of the thoracic aorta may produce abdominal symptoms comparable in severity to acute pancreatitis is not indicated by a perusual of the books dealing with cardiovascular, mediastinal or abdominal disease.

With regard to the frequency of its occurrence, it is stated that [2] "Descending thoracic aneurysm is rarer than in the abdominal aorta. It was involved in only

* Read before the Medical Society of the District of Columbia, Jan. 17, 1923.

1. Fussell, M. H., and Kay, J. A.: Symptoms of Appendicitis in Acute Pericarditis, Am. J. M. Sc. **163**: 40 (Jan.) 1922.

2. Osler's Modern Medicine, Philadelphia, Lea & Febiger, 1907, p. 487.

three out of sixty-four cases of aneurysm of the aorta, among 2,200 autopsies at the Johns Hopkins hospital."

Lucke and Rea [3] report that "aneurysms were found in 2.2 per cent. of patients coming to autopsy. In only 43 per cent. of the cases was the clinical diagnosis of aneurysm made."

Harlow Brooks,[4] in performing necropsies, was struck with the frequency with which sudden deaths from cardiac diseases had been diagnosed as "acute indigestion." Among these, probably the most frequent lethal lesion was coronary thrombosis or embolism. He is one of the few to point out not only that cardiac disease sometimes gives abdominal symptoms, but also that acute or chronic aortitis, rupture of the aorta, or aortic aneurysm, and acute mediastinitis may simulate abdominal disease.

The literature for the last ten years records a number of cases of aneurysm of the descending thoracic aorta presenting acute grave abdominal symptoms, but even when an aneurysm is suspected and searched for, its presence may be very difficult of demonstration during life.

Lerena [5] reports such a case. There was nothing in the history to suggest aneurysm; tests for syphilis were negative; a roentgenogram gave no hint of the presence of an aneurysm. The postmortem examination demonstrated the existence of an atypical sacciform aneurysm of the thoracic aorta, with previous walling up of the vessel. The aneurysm was as large as a hen's egg and had a second smaller aneurysm which communicated with it by a narrow opening.

Du Bray [6] presents an excellent study of a case in which the symptoms and signs led to the clinical impression that the cause of death was "massive pulmonary hemorrhage into a bronchus, in a case of ulcerative pulmonary tuberculosis." In his case, the symptoms were of four years' duration, all thoracic in character. The aneurysm, 8 by 10 by 8 cm. in size, ruptured directly into a bronchus, not involving the mediastinum. The absence of involvement of the mediastinum explains why there were no abdominal symptoms. He reviews the literature, giving twenty-eight references. In 153 instances of rupture of an aneurysm of the descending thoracic aorta into various situations and viscera, not one is mentioned as rupturing into the mediastinum, and no mention is made of abdominal symptoms. Rupture into the left pluera is by far the most common accident.

A case resembling ulcer of the stomach is reported by Demetrescu: [7]

A man, aged 35 years, entered the clinic with pain in the abdomen, and hematemesis. He vomited food and had acid eruptions. When entering the hospital, hematemesis occurred, the patient vomiting 2 liters. The abdomen was sensitive to the slightest touch, tenderness being most accentuated in the epigastric region. The pulse was 126 and the temperature ranged from 38 to 39 C. (101.4 to 102.2 F.). Ulcer of the stomach was diagnosed, and the abdomen was opened. Nothing could be found in the stomach. The next day, hematemesis occurred, to the amount of 70 c.c. The pulse was very small and thready, and the mucous membranes were pale. In the afternoon, the patient lost 100 c.c. of blood, and he died the next day. At necropsy, the aorta was found enlarged and cartilaginous in aspect in its entire extent. Two thirds of the upper part of the descending aorta consisted of a large aneurysm. A fibrinous mass filled the aorta and esophagus. The mucosa of the esophagus was blackish at the point of the aneurysmal rupture. Nothing was found in the stomach, and the pylorus was free.

Age is of no practical diagnostic importance, for Morquio [8] reports the case of a child, 5 years old, who was admitted for typhoid fever. For four days, it had been vomiting, and had suffered epigastric pain and cardiac collapse. At necropsy, an aneurysm was found in the lower part of the descending thoracic aorta. The aneurysm was the size of a mandarin orange. It had ruptured through the diaphragm into the abdomen, there forming a coagulum. There was no history, no symptoms nor radiographic findings which would have suggested the existence of an aneurysm.

That the lesion may complicate an acute febrile disease in the young is illustrated by the case of Soprana and Piazza.[9]

A woman, aged 21 years, who entered the hospital complaining of articular pain, had, ten days previously, begun to complain of violent pain, especially in the upper extremities, the neck and the shoulder of the right side. The face was pale. The temperature was 38.4 C. (101 F.) the pulse, 100, strong and regular, and respiration, regular. There was a slight murmur at the apex of the heart. The patient was improving, when, on the tenth day, she suddenly felt severe constriction in the thorax; precordial and epigastric pain became continuous, especially at the top of the sternum; the temperature, which had been down, rose slightly; paroxysms of precordial and epigastric pains increased; the lips became blue, the face pale, and the temperature was 37 C. (98.6 F.) rising to 38.5 C. (101.3 F.) in the afternoon. Six days later, the patient died. A lesion was found on the convex surface of the aorta in its endopericardial portion. The anatomic pathologic diagnosis was acute articular rheumatism and acute rheumatic aortitis, with three small aneurysms, two of them ruptured, producing hemopericardium.

In the case reported by Dr. John D. Thomas,[10] the three main symptoms were continuous pain in the back and epigastrium, regurgitation of food and absolute constipation of one week's duration. At postmortem examination, "The thoracic aorta from the point where its descent began to just below the diaphragm was the seat of a large sacculated aneurysm, irregularly oval in shape, walls fairly thin, and contained postmortem clots; it had not ruptured."

Shore [11] reports a case of a man, aged 62, who, while presenting symptoms adequate for the diagnosis of thoracic aneurysm, also presented marked abdominal symptoms.

The patient was admitted to the hospital after midnight, complaining of severe precordial and epigastric pain, which followed urination performed a short time before. He had had shortness of breath for two years, and eight months previous to his present illness, he began to have slight pain, which came on an hour after eating and continued for about an hour. Lately, the pain had been worse and more nearly continuous, with exacerbations after eating. On examination, the temperature could not be registered. There was an anxious expression, pale skin, cold sweating and a little cyanosis. Breathing was rapid and shallow, and the pulse was 60, regular, full, sudden and of high tension. Rigidity of both rectus muscles and definite epigastric tenderness were

3. Lucke, Baldwin, and Rea, M. H.: Studies on Aneurysm, I, General Statistical Data on Aneurysm, J. A. M. A. **77**: 935 (Sept. 17) 1921.
4. Brooks, Harlow: Abdominal Symptoms and Signs of Thoracic Disease, Med. Rec. **100**: 1103 (Dec. 24) 1921.
5. Lerena, V. P.: Case of Aneurysm of the Thoracic Aorta Difficult of Diagnosis, Rev. med. Cub. **32**: 431 (June) 1921.
6. Du Bray, E. S.: Saccular Aneurysm of the Descending Thoracic Aorta, Am. J. Med. Sc. **16**: 407 (March) 1921.
7. Demetrescu, S.: Aneurism al aortel descendente rupt in esofag simuland un ulcer de stomac, Clujul Med. **1**: 729, 1920.
8. Morquio: Aneurisma de la aorta toracica descendente en un ninno de cinco anos., Rev. méd. d. Uruguay **20**: 555, 1917.
9. Soprana, F., and Piazza, C.: Aortite hematogène anevrismes multiples de l'aorte a début et évolution agus, rupture dans le péricarde de l'un d'eux au cours d'une crise unique de rhumatisme articulaire, Arch. de méd. expér. et d'anat. path. **27**: 55, 1916-1917.
10. Thomas, J. D.: Case of Aneurysm of the Thoracic Aorta with Paralysis of the Diaphragm and Hour-Glass Contraction of the Stomach, Washington M. Ann. **13**: 146, 1914.
11. Shore, T. H. G.: Case of Dissecting Aneurysm of the Thoracic Aorta, St. Bartholomew's Hosp J **21**: 44, 1913-14.

present. At postmortem examination, a small rupture of the intrapericardial portion of the aorta was found, with a dissecting aneurysm which involved the aorta more or less to its abdominal bifurcation.

In the case reported by Mackinlay and Weeks,[12] the condition closely resembled ruptured duodenal ulcer.

A man, aged 54 years, who had no previous symptoms, and who had been doing heavy muscular work without any inconvenience for two years, at 8:30, while in a public bar, was suddenly seized with acute pain in the pit of the stomach, which caused him to fall to the ground, to double up and to shout. The pain radiated around his right side and up below the shoulder. It made him catch his breath, but there was no shivering. He stated that he felt as though something were closing around the bottom of the esophagus. He tried to retch, but there was no vomiting during the whole illness. The pulse rate was 100, the volume very poor. Twenty-four hours later, there was marked dulness at the base of the right lung, with absence of breath sounds. There was pulsation in the epigastrium, but no murmur. Ruptured duodenal ulcer into the lesser sac was considered, but the evidence was not considered sufficient. At postmortem examination, an aneurysm the size of an orange, at the point where the aorta passes through the crura of the diaphragm, was found. It had eroded the eleventh dorsal vertebra to the depth of half an inch. There was a large perforation into the right pleural cavity. There was marked extravasation into the cellular tissue of the spine and into the abdominal cavity extraperitoneally.

In Sanders' case[13] there were no abdominal symptoms. An aneurysm the size of a coconut occurred in the middle of the descending aorta; the left lung was septic and deeply pressed on; the aneurysm, lying in the cup thus formed, was surrounded with pus. The vertebrae were slightly eroded.

Another case with rupture, without abdominal symptoms, is reported by Munkwitz and Jerman.[14]

For a short time before the onset of his last illness, the patient complained of some dyspnea on exertion and vagus pains in the chest and back. While at work leaning over a drawing table, he suddenly cried out with pain and fell to the floor unconscious. There were no abdominal symptoms. Two days later, there were signs of involvement of the right pleural space. The diagnosis was aneurysm of the arch of the aorta. Death occurred suddenly, ten days after onset, in a choking attack. At necropsy, the mediastinal space was found filled with blood. There was an aneurysm of the transverse portion of the aorta, the rupture occurring where the aorta begins its descent. There were two openings, one into the pleural cavity and one into the mediastinum.

REPORT OF AUTHOR'S CASE

History.—Mr. G. P. H., aged 61, married, who had had the lower left leg amputated as a result of an accident at the age of 21, had a few months prior to his present illness, while attending a banquet, suffered an attack of palpitation, followed by a cold sweat. A few days later, he had what he called "a slight cold and cough." There was no history of previous indigestion or attacks of any kind of pain. He used tobacco and alcohol moderately. Recently, he had applied himself very closely to office work. About 7 p. m., May 31, 1921, after eating a full dinner, he was seized with sudden pain, which he described as "feeling as if some one had struck a knife in his heart." The pain was constant and severe, and did not radiate. There was no nausea or vomiting. Dr. S. H. Greene, who saw him about 9 p. m., washed a large amount of undigested food from the stomach, and gave several enemas, which resulted in a good return of normal feces, but produced no amelioration of the symptoms.

Examination.—I saw the patient about 10:30 p. m. He was sitting up on a sofa, slightly doubled up, with the hand held over the epigastrium. The skin was pale and cold, and bathed in perspiration. The respirations were shallow and grunting, but not accelerated. The pulse was 75, hard, full and regular. The pupils were normal. No abnormal sounds were heard over the heart or lungs. The abdomen was hard, rigid and tender, the last condition being more marked in the epigastrium.

He was admitted to the hospital at 11:15 p. m. At that time, the blood pressure was 220 systolic, 110 diastolic; the pulse was still under 90. There was a leukocytosis, the cells numbering 29,000. The urine contained albumin and casts. Preparatory to operation, the patient was given morphin sulphate, one-sixth grain (0.1 gm.), and atropin sulphate, 1/150 grain (.004 gm.).

Diagnosis.—The provisional diagnosis was some acute condition in the upper abdomen. Perforated gastric ulcer was first thought of as being the most common cause of such symptoms, but a ruptured gallbladder or mesenteric thrombosis was considered as a possibility. Just before going into the operating room, I expressed an opinion in favor of hemorrhagic pancreatitis on account of the absence of previous digestive disturbance and the presence of marked vascular disease. When the patient was first seen and the hard pulse of high tension was noted, abdominal angina was considered, but the long duration—from 7 to 1 o'clock—six hours, and the leukocytosis of 29,000 seemed to point more definitely to a rupture of some viscus.

Operation.—At 12:30 a. m., Dr. C. S. White explored the abdomen under gas anesthesia, but found nothing abnormal.

Course and Outcome.—I still leaned toward a diagnosis of vascular lesion as to the cause of the symptoms. At 1:30, the patient was returned from the operating room in a condition of extreme shock. He did not regain consciousness for several hours. The pulse was about 130, and almost imperceptible. The respirations were irregular, at times being of the Cheyne-Stokes type. The skin was bathed in cold perspiration, and the extremities were cold. Tap water, by rectum, heart stimulants and external heat were employed, and reaction occurred slowly.

The next morning, there was no more complaint of pain than is usual after an abdominal operation. There was some hiccup and a little vomiting, but some fluid was retained.

The leukocyte count was: before operation, 29,000; June 1, 28,500; June 2, 24,000; June 3, 18,000; June 4, 19,000, and June 6, 25,400.

The renal function, at first deficient, became well established in twenty-four hours, and except for moderate restlessness and occasional attacks of hiccup, or irregular breathing, the patient seemed to be making a good recovery. This general condition continued with slight changes until June 6, when he died suddenly, at 10:15 a. m.

Necropsy Findings (Dr. Hunter).—When the chest was opened, a large dissecting aneurysm occupied the distal end of the arch of the aorta, with extensive hemorrhagic extravasations, apparently occurring at different periods; the first extravasation into the soft tissues of the mediastinal spaces exhibiting characteristics suggesting that it was of a few days' standing; the second, a rupture into the left pleural cavity, filled with blood and with considerable compression of the left lung. The aneurysm was somewhat cirsoid in character, disintegration of the wall of the aorta taking place, especially superolaterally, with marked dissection between the adventitia and medial coats all the way down to the aortic orifice of the diaphragm, along the anterior surface of the thoracic aorta.

The aneurysmal dilatation extended 1¼ inches (3.2 cm.) transversely along the arch of the aorta surrounding the roots of the left subclavian and common carotid. The left subclavian artery was enlarged and showed some aneurysmal dilatation at its base. Superior to the distal end of the arch, lying between the left subclavian artery and common carotid medially and the upper lobe of the left lung laterally, there was a large clot of blood, 1½ by 2¾ inches (3.8 by 7 cm.), where the extravasation had taken place into the proximal portion of the fibrous pericardium and the transverse sulcus.

12. Mackinlay, W. H., and Weeks, L. M.: Case of Ruptured Aneurysm of the Descending Aorta, Brit. M. J. **2**: 1623, 1913.
13. Sanders, Arthur: Aneurysm of the Descending Aorta, West London M. J. **21**: 127, 1916.
14. Munkwitz, F. H., and Jerman, Louis: Rupture of Aortic Aneurysm into the Right Pleural Cavity with Death Ten Days Later, Wisconsin M. J. **15**: 51, 1916-17.

Toward the inferolateral margin of this clot, there was a well defined opening in the pleura, from which the extensive bleeding into the pleural cavity took place. This blood in the pleural cavity was a very recent extravasation. Only moderate soft clots were formed, whereas the clotting in the mediastinal tissues was apparently of several days' duration, and the clots were quite firm and hard. Extending from this large clot, there was definite macroscopic evidence of extensive extravasation (which probably took place slowly) into the fibrous pericardium and its contained fat, down to the diaphragm. Laterally, this extravasation had extended into the tissues of the middle mediastinum, and backward, between the pleurae, into the posterior mediastinum.

Surrounding the pulmonary plexuses, trachea and esophagus, and in the proximal part of the posterior mediastinum, it had extended backward beneath the parietal pleura and the transverse ligaments, all the way out to the sympathetic trunk. Extravasations of blood had also occurred in the soft tissues of the superior mediastinum on the right side as well as on the left, and, to some extent, into the adventitial structures of the large vessels arising from the arch of the aorta.

With respect to the visceral pericardium, there was apparently no extravasation of blood underneath this structure below the transverse sulcus, except on the right side, where the extravasation had apparently spread across the fibrous pericardium as it covered the large vessels arising from the arch of the aorta and had insinuated itself into the adventitial covering beneath the visceral pericardium of the lower end of the superior vena cava and a portion of the right ventricle.

The structure of the aorta itself was definitely sclerotic, numerous atheromatous patches being present along the arch as well as in the thoracic portion. In the region of the upper aneurysmal sac, the medial wall was extremely thin and very friable. The dissected pocket in the adventitia had apparently been present for some time, and as a result the wall was quite smooth and very definitely thickened.

1720 Connecticut Avenue.

A POSSIBLE MISTAKE IN THE DIAGNOSIS OF GONOCOCCAL INFECTION OF THE KIDNEY

WITH REPORT OF A SUSPECTED CASE *

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There is an abundant literature concerning the types of kidney infection, and in the majority of instances these infections were mixed, that is, the urine collected from the diseased side contained two or more organisms. David[1] has isolated eighteen different types of aerobic and anaerobic organisms from infections of different parts of the urinary tract. Many of them, however, do not involve the kidney. In cases in which urine was collected directly from the kidney pelvis, he found that the *Bacillus coli* type occurred in 90 per cent., and the pyogenic cocci in 5 per cent. of the cases.

Most of the infections are easily differentiated by the bacteriologist, but in a few cases a possible error might be made, unless a most exhaustive laboratory study is carried out to determine the nature of the invading organism. Two such bacteria will be under discussion in this paper, namely, *Micrococcus catarrhalis* and the gonococcus. There is very little literature[2] available on the former micro-organism, and in none that I reviewed was the kidney the seat of infection; nor in any of these cases infected with *Micrococcus catarrhalis* was the organism found in the urine in either voided or catheterized specimens. This organism is commonly found in the sputum in inflammatory conditions of the respiratory tract, and at times in multiple abscesses or on the mucous membrane of the anterior urethra, where it may produce a catarrhal urethritis which generally responds readily to treatment.

Micrococcus catarrhalis[3] may grow profusely on plain and dextrose agar and retain its characteristic appearance in frequent and long continued subculturing, and there is no tendency to ferment sugars.

In considering the latter infection of the kidney, we have reported to date in our literature[4] twenty-seven cases of gonococcal infection of the kidney. Only fourteen out of these twenty-seven cases were a pure gonococcal infection; in the remainder, the infection was mixed. In twelve of these cases, the diagnosis was made by stained smears of material from the infected kidney, and in the remainder the laboratory tests consisted mainly of growing cultures on blood serum, serum agar, ascitic fluid and staining with the usual Gram stain. In none was mention made of the agglutination reaction or the complement fixation test in aiding the diagnosis.

As *Micrococcus catarrhalis* is not mentioned in the literature as a possible error in diagnosis with that of the gonococcus, its presence as an exciting factor in infections of the kidney must be extremely rare.

REPORT OF CASE

History.—S. S., a man, aged 20, white, in the fruit business, reported first for examination and treatment, Nov. 23, 1920, because of a urethral discharge that he first noticed three days before. The family history was negative. He was exposed to infection six days before. There was a slight urethral discharge, with burning during urination. The first urine was cloudy, and the second was clear with light shreds. A urethral smear made at this time showed many pus cells with gram-negative, intracellular and extracellular diplococci resembling the gonococcus. Treatment was immediately instituted, and on December 12, there was no urethral discharge, and both urines were clear. The secretions from the prostate gland, December 30, contained fifteen pus cells to the high power field. Jan. 14, 1921, there were many pus cells in the prostatic smear, and on February 2, the smear from the prostate was negative. The patient discontinued treatment after February 16, and at that time both urines were clear.

He returned again, August 21, with a slight urethral discharge, having been exposed two weeks before. The first urine was cloudy and the second hazy. The smears taken from the urethra showed many pus cells and a few pus cells containing many pairs of gram-negative intracellular diplococci resembling the gonococcus. The prostatic smear showed 26 pus cells to the field. There was no stricture formation anywhere along the urethra. December 12, the smears from the prostate and vesicles were negative. Both the first and the second urine voided remained hazy, but there was no urethral discharge.

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* Read before the Philadelphia Urological Society, Feb. 26, 1923.

1. David: Surg., Gynec. & Obst. **18**: 432, 1914.
2. Walker, I. C., and Adkinson, J.: J. M. Res. **30**: 373, 1916. Mayer, A.: Deutsch. med. Wchnschr. **45**: 660, 1919. Clark, P. J., and Murphy, E. J.: J. Infect. Dis. **30**: 306 (July) 1921.
3. Mallory and Wright: Pathological Technique, Ed. 6.
4. Gerster, A. G.: New York M. Month. **9**: 189-219 (April 20) 1897. Dodge, W. T.: J. Michigan M. Soc. **4**: 58 (Feb.) 1905. Lewis, B.: J. Cutan. & G.-U. Dis. **18**: 395 (Sept.) 1900. Wynn, W. H.: Lancet **1**: 352 (Feb. 11) 1905. Lewis, B.: M. Rec. **70**: 521 (Oct. 6) 1906. Sellei, J., and Unterberg, H.: Berl. klin. Wchnschr. **44**: 1113-1115 (Sept. 2) 1907. Hagner, F. R.: M. Rec. **79**: 569 (Oct. 1) 1910. Nixon, P. L.: Surg., Gynec. & Obst. **12**: 331 (April) 1911. Marcuse, B.: Therap. Monatsh. **17**: 73-78 (Feb.) 1903. Weisswange, F.: München. Med. Wchnschr. **55**: 967-968 (May 5) 1908. Stanton, E. M.: Urol. & Cutan. Rev. (Tech. Supp.) **1**: 179 (April) 1913. Hoover, F. B.: Interstate M. J. **22**: 163 (Feb.) 1915. Boyd, M. L.: Surg., Gynec. & Obst. **21**: 506-510 (Oct.) 1915. Buerger, L.: New York M. J. **108**: 1022 (Dec. 14) 1918. Simons: J. Urol. **7**, February, 1922. Lehr, L. C.: Report of a Case of Gonorrheal Pyelitis, J. A. M. A. **59**: 36 (July 6) 1912. Barney, J. D.: J. Urol. **9**, January, 1923.

The patient had had double pneumonia thirteen years before, but no other illness. He had never been troubled with a cough or sore throat. He had voided urine very frequently ever since he could remember, passing a small amount each time, and was a bed wetter until the age of 8 years. There had never been any difficulty in starting the stream, or pain on voiding.

TABLE 1.—*Results of Agglutination Reactions, Cultures of the Diplococcus Being Employed as Antigen*

	Serum							Antigen
	1:20	1:40	1:80	1:160	1:320	1:500	1:640	Control
Gonococcus	2	2	1	1	—	—	—	—
Catarrhalis	2	2	3	2	2	1	1	—
Meningococcus—								
Type I*	3	3	2	1	—	—	—	—
Type II	2	2	—	—	—	—	—	—
Type III	2	2	2	—	—	—	—	—
Type IV	2	2	2	1	—	—	—	—

* Gordon classification.

The patient continued to report for treatment on account of hazy urines. There are no other clinical signs of infection.

Physical Examination.—The patient was well developed and well nourished. There was nothing abnormal with the head, throat, chest, abdomen, back, extremities or external genitalia. The urine passed in two glasses was hazy, with light and heavy shreds, and smears showed a few gram-negative extracellular and intracellular diplococci. The analysis showed a slightly acid reaction, specific gravity 1.005, albumin a very faint trace, sugar negative. The high power field showed many pus cells, and a few red blood cells, about four to the field, occasional epithelial cells, and no casts. The blood pressure was: systolic, 125; diastolic, 85; pulse pressure, 40.

The first cystoscopic examination was made, Dec. 16, 1922, on account of persistently hazy and cloudy urine, and in the absence of any demonstrable urethral discharge.

The bladder capacity was only 140 c.c. The mucous membrane was normal in appearance, with marked trabeculation on the lateral walls of the bladder and fine trabeculation on the anterior wall. The trigon was markedly elevated, with the ureteral orifices situated close together. About the orifice of the right ureter, there was some puffiness, with slight congestion of the mucous membrane. Both ureters were catheterized, and the catheter extended to the pelvis of the kidney without meeting any obstruction. The urine coming from the left catheter was clear; that from the right, cloudy. Five cubic centimeters of indigocarmin was injected intravenously. It appeared from the left side in four minutes and from the right side in five and one-half minutes. There was marked intensity in one-half minute after the first appearance on both sides.

TABLE 2.—*Results of Agglutination Reactions with Gonococcus and Catarrhalis Serum, and Known Gonococcus and Catarrhalis Antigens**

	Serum							Antigen
	1:20	1:40	1:80	1:160	1:320	1:500	1:640	Control
Gonococcus	4	4	4	4	4	2	1	—
M. catarrhalis	2	2	—	—	—	—	—	—

* In Tables 2 and 3, 4 indicates complete agglutination; 3, 75 per cent. agglutination; 2, 50 per cent. agglutination; 1, 25 per cent. agglutination; —, less than 25 per cent. agglutination

Laboratory examination of the catheterized specimen from the right kidney revealed the urine straw colored and turbid. The reaction was very slightly alkaline. There was a trace of albumin. Sugar was negative. There were about 135 pus cells to the high power field, an occasional epithelial cell, and no casts. The urine from the left kidney was straw colored and clear. In reaction it was alkaline. There was a trace of albumin; sugar was negative. There were few red blood cells to the field, no pus and no casts. A smear from the right kidney disclosed three cells on a slide, containing quite a few pairs of gram-negative intracellular diplococci resembling the gonococcus. A smear from the left kidney, with Gram's strain, showed no pus and no organism.

A bacteriologic examination was made by Dr. John A. Kolmer and Dr. Malcolm J. Harkins of urine collected from the pelvis of the right kidney. This made a correct diagnosis possible. Dr. Kolmer reported that the specimen of urine showed the presence of gram-negative diplococci which were sometimes intracellular. From this standpoint, he thoroughly agreed that the cocci resembled the gonococcus very closely. Cultures proved disappointing, as there was no growth. Probably the failure at this time to cultivate the organism was due to the fact that the urine was collected fourteen hours before it was delivered to the laboratory, although during that time it was left in the incubator.

The third cystoscopic examination was made, Feb. 1, 1923. The urine was collected from the right kidney at 10 in the morning, and delivered to the laboratory before 1 o'clock in the afternoon. It might be of interest to mention that the bladder capacity had increased to 275 c.c., with marked decrease in the amount of frequency, although no treatment had been given in the interval.

During all of the cystoscopic examinations, great care was taken to sterilize thoroughly the anterior urethra before passing the cystoscope, and to cleanse thoroughly the bladder by repeated washings with sterile distilled water before introducing the catheterizing telescope. The catheter for the right kidney was introduced in the ureter immediately, and not allowed to scrape over the bladder surface.

TABLE 3.—*Results of Complement Fixation Test, Cultures of the Diplococcus Being Employed as Antigen**

	Serum Dilution				Serum Controls			
	1:5	1:10	1:20	1:40	1:5	1:10	1:20	1:40
Gonococcus	4	4	3	1	3	—	—	—
Meningococcus Type I †	—	—	—	—	—	—	—	—
Meningococcus Type II	—	—	—	—	—	—	—	—
Meningococcus Type III	—	—	—	—	—	—	—	—
Meningococcus Type IV	—	—	—	—	—	—	—	—

* The antigen consisted of a forty-eight hour growth on human blood agar suspended in 0.25 per cent. phenolized salt solution, heated one hour at 60 C.

† Gordon classification.

I had hoped to enter this patient in the hospital for a further study of the right kidney and ureter by roentgen ray and pyelogram, to try to determine if possible the predisposing cause of the infection, but he refused. However, I think we are safe in concluding that this is a case of simple pyelitis, with the findings to date of a normal dye output, and no evidence at any time of casts in the urine examined.

DETAILED REPORT OF LABORATORY FINDINGS

Microscopic Examination of Sediment of Urine.—There were a few gram-negative diplococci, mostly extracellular. For the bacteriologic examination, the sediment collected from the centrifugalized urine was cultivated on a human blood agar plate incubated forty-eight hours at between 37 and 38 C., and examined. Plate 1 revealed approximately twenty-five colonies, apparently in pure culture, approximately 0.5 mm. in diameter, of slow growth, round, smooth, convex, entire, translucent, with no hemolysin, and no coloring of the medium. Microscopic examination revealed a diplococcus, biscuit shaped, gram-negative, not clumped. Cultures on human blood agar were of very slow and scant growth, with a tendency to form colonies. After three or four generations, growth was more abundant, was moderate, filiform along the line of inoculation, raised, glistening, smooth, translucent, with no odor, and of somewhat viscid consistency; the medium was not changed; the water of condensation was clear; there was a precipitated growth at the bottom. Huntoon's[5] plain hormone or vitamin agar and bouillon yielded no growth.

Sugar reactions were: 1 per cent. glucose serum bouillon, 1 per cent. maltose serum bouillon, 1 per cent. saccharin

5. Huntoon, F. M.: J. Infect. Dis. **23**: 169 (Aug.) 1918.

serum bouillon and 1 per cent. levulose serum bouillon, no acid or gas. The cultures resembled *Micrococcus catarrhalis* more than the gonococcus, and the sugar reactions indicate that the organism is *Micrococcus catarrhalis*, which is known not to ferment sugars.

The antigen of the diplococcus consisted of a forty-eight hour growth on human blood agar suspended in 0.25 per cent. phenolized salt solution, heated one hour in a water bath at 60 C.

The agglutination tests showed that gonococcus serum agglutinated a known culture of gonococcus in a final dilution of 1:640, but the urine diplococcus in only 1:160; this indicates that the diplococcus was not the gonococcus.

These results indicated that the urine diplococcus may be the gonococcus, but additional tests with a known gonococcus antigen have shown positive results with higher dilutions of serum, indicating that the urine diplococcus is not the gonococcus, but has yielded a group reaction analogous to the agglutination reactions.

The report states that there was no growth on some of the plain mediums, while in others the growth was very scanty. The one outstanding point in favor of the organism's being *Micrococcus catarrhalis* is that it did not ferment sugars. However, it would have been difficult to come to any definite conclusion without the aid of the complement fixation and the agglutination tests.

MODE OF INFECTION

We know that the kidney and its pelvis may become infected through the blood stream, through the lymph supply, or by extension of suppuration from neighboring structures, and ascending infection or infection by continuity. Bacteria may pass from the infected blood stream through the normal kidney without producing disease if these bacteria are few in number and of the less virulent type. But if there exists a defect in the kidney itself, or one resulting in the stagnation of urine in the kidney pelvis, an infection is likely to follow. In this case we cannot prove the predisposing cause, but it must exist, as *Micrococcus catarrhalis* is usually but not always an organism of low virulence. The route of infection was in all probability by the blood stream. The type of infection of the lower genito-urinary tract would lead us to believe that in this case we are dealing with two entirely different infections, although existing simultaneously.

CONCLUSIONS

1. In morphology, the gonococcus and *Micrococcus catarrhalis* are practically identical. No one can safely differentiate them by morphology and staining.

2. The case reported in this paper shows how easily this infection of the kidney could have been mistaken for gonorrhea, had not a very careful bacteriologic study been made.

3. It is not possible in all cases of gonococcal infection of the kidney to make a diagnosis from cultural characteristics alone.

121 South Illinois Avenue.

Why the Ectoplasm Failed to Materialize.—Among the papers left by the late Professor Rénon of Paris was a description of his investigation of a celebrated medium of ectoplasm fame. The sitting was in a private house, and Rénon took newly bought garments for the medium to wear, had all the furniture except the chairs removed from the room, and sealed the openings. Then he examined the medium's mouth, nose and rectum, and had him put on the new clothing. The medium offered the guests a drink from a bottle he had brought with him, but Rénon protested against any drinking. Rénon's paper is published in full in the *Echo médical du Nord*. Strange to relate, the séance was a failure. No materialization of any kind occurred, no ectoplasm appeared.

EFFICACY OF ANTIVARIOLAR VACCINATION IN THE PHILIPPINES DURING 1921 AND 1922

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Heiser and Leach,[1] in their article entitled "Vaccination in the Philippines Still Effective," presented a summarized study regarding the possible causation of the outbreak of smallpox in 1918, and of the casualties of the disease up to 1920. In the same article, some of the many difficulties encountered in the way of vaccination were pointed out. In the present paper I shall attempt to supplement what was said on the immunizing value of antivariolar vaccination, as observed in the last two years.

For the purpose of this study, an analysis of all available statistics, on the morbidity and the mortality of smallpox and on the results of vaccination during 1921 and 1922, has been made.

MORBIDITY AND MORTALITY RATES IN GENERAL

In Manila, where there had been preformed every year higher proportions of successful vaccinations, smallpox completely disappeared in 1921 and 1922; the last five cases, with three deaths, occurred in 1920. In the provinces and in Mindanao and Sulu, the disease could be controlled to its possible minimum, there being a total morbidity and mortality rates, per 10,000 population, of 1.58 and 0.73, respectively, in 1921.

TABLE 1.—*Morbidity and Mortality Rates* per Ten Thousand Population as Compared with the Percentage of Population Immunized† During 1921*

Division	Morbidity Rate	Mortality Rate	Percentage of Immunized Population in 1921
Manila	0	0	30.22
The provinces	0.45	0.14	17.06
Mindanao and Sulu	18.76	9.57	14.78
Average	1.58	0.73	17.31

* Rates based on population of each division.
† Those estimated with + "takes."

It is noteworthy that, in places where the percentage of immunized population was the highest, the morbidity and mortality rates have been the lowest, and conversely—in other words, in Mindanao and Sulu, where there have been more numerous obstacles to successful vaccination; hence, the estimated percentage of immunity being only 14.78 per cent., the morbidity and mortality rates had been during the year relatively more exuberant: 18.76 and 9.57, respectively.

Up to the time this paper was written, the returns of 1922, from five provinces under the Division of Provincial Sanitation, show 126 cases with twelve deaths from smallpox and, from one province under the Division of Mindanao and Sulu, fourteen cases with seven deaths. The morbidity and mortality rates per 10,000 population for the former were approximately 0.13 and 0.01, and for the latter 0.12 and 0.05, respectively. For comparison, such rates in 1920 were 0.17 and 0.10 for Manila, 11.85 and 4.97 for the provinces, and 89.48 and 46.45 for Mindanao and Sulu.

Obviously the disease is gradually disappearing. The vaccination process, systematically conducted every year

1. Heiser, V. G., and Leach, C. N.: Vaccination in the Philippines Still Effective, J. A. M. A. 79: 40 (July 1) 1922.

in all parts of the archipelago, has been the potent factor in this rapid reduction. As a result, 17.31 per cent. of the total population had been immunized in 1921, against 15.87 per cent. in the yearly average of ten years ending 1920.

Failure to obtain a higher percentage of immunized population in 1921 has been due to various causes. In fact, experience has shown that it seems almost impossible to get a 100 per cent. positive "take" in tropical regions, unless an improvement is introduced to prevent the deterioration of the vaccine virus for a considerable length of time in hot weather. On the other hand, among those with negative "takes" there may be some who might have acquired previous immunity, and others in whom the results might have been misinterpreted by untrained sanitarians.

TABLE 2.—*Percentage of Positive "Takes" on the Vaccinated*

Periods of Time	Manila	The Provinces	Mindanao and Sulu	Total or Average
Aver., 1911 to 1920 inclusive.	52.95	65.02	58.85	64.32
1921	64.49	65.18	59.00	64.80
1922 *	74.22	61.19	52.93	61.02

* Up to November, 1922.

But, as far as the records are concerned, the percentage of positive "takes" during three periods of time may be comparatively expressed as in Table 2.

An inference may be drawn that, despite the supposedly low percentages of positive "takes," persistent vaccination of the unvaccinated, and revaccinations of those with negative "takes" every year, would perhaps produce complete immunization in all the islands in six or seven years. In an effort to explain the cause, in part, of the epidemic of 1918, it was stated [2] that at the beginning of the outbreak there were only 45.51 per cent. of the population immunized against the disease. With the present method, therefore, it is hoped that, if the duration of immunity conferred by successful vaccination is usually ten years, the time may not be reached for the expiration of immunity of the first batch that was vaccinated six or seven years ago.

SPECIFIC MORBIDITY AND MORTALITY RATES

The percentage distribution of the cases of smallpox that occurred in 1921 is given in Table 3.

In 1920, the disease occurred in twenty-seven out of thirty-eight provinces under the Division of Provincial Sanitation, and in seven out of nine provinces under that of Mindanao and Sulu. In 1921, it occurred in twelve provinces under the former and four under the latter. In terms of the "protected" and "unprotected" population of the infected provinces during 1921, the morbidity rates of the vaccinated and unvaccinated persons, per 10,000 of each of the former, are likewise expressed, in Table 4.

TABLE 3.—*Incidence in Percentage of the Vaccinated and Unvaccinated in 1921*

Specification	Manila (None)	The Provinces (No., 302*)	Mindanao and Sulu (No., 1,160)	Total (No., 1,462*)
Vaccinated †	0	18.87	0.69	4.44
Unvaccinated	0	81.13	99.31	95.56

* Excluding the sixteen unclassified cases from the province of Camarines Sur and unreported ones from Mindoro.
† Only those with positive "takes."

2. Council of Hygiene: Report on Smallpox and Vaccination in the Philippines, submitted to the Director of Health, Jan. 19, 1923.

This great discrepancy between the rate of the vaccinated cases and that of the unvaccinated, 0.40 and 6.04, respectively, clearly shows the protective value of vaccination against the disease. In similar manner, it can be shown that the mortality rates among the vaccinated is much lower than that among the unvaccinated.

As might be expected, 61.03 per cent. out of 1,478 cases occurred among the young population, against 38.97 per cent. among the adults (Table 5).

Further analysis similarly shows that the specific morbidity rate among children was relatively greater than that among adults (Table 6).

The relation of the morbidity rates and the percentages of immunized population in 1921 among the adults does not seem to follow that among the young. But, although vaccinations and positive "takes" in Mindanao and Sulu had been comparatively more frequent among the adults—the successful vaccination being in the proportion of 75.77 per cent.—yet, only 0.69 per cent. of the 1,160 cases that occurred in that division were among the successfully vaccinated. Moreover, the specific morbidity rate of unvaccinated cases, per 10,000 of unsuccessfully vaccinated population in the infected localities of Mindanao and Sulu, had been relatively excessive, it being 42.94, against 1.40 of those with positive "takes."

On the other hand, it is surprising to note that such rates in the provinces under the Division of Provincial Sanitation were 0.93 for the vaccinated and 0.82 for the unvaccinated. But the statistical figures indicate that in the infected provinces under this division in which 65.09 per cent. of the cases occurred in children, only 38.18 per cent. of the vaccinations with positive results were among the latter. The large remaining number of susceptible young "unprotected" population became affected more severely, which might perhaps have enhanced the endemic curve among the vaccinated. In

TABLE 4.—*Specific Morbidity Rates in Immunized and Nonimmunized Cases, per Ten Thousand of Vaccinated and Unvaccinated Population, in 1921*

Population	The Provinces	Mindanao and Sulu	Total or Average*
Immunized	0.37	0.88	0.40
Nonimmunized	1.18	49.22	6.04
Total or average	0.84	35.64	3.72

* Excluding the immunized and nonimmunized population of Manila.

TABLE 5.—*Percentage of Cases in 1921 by Age Groups*

Age Group	Manila (None)	The Provinces (No., 318*)	Mindanao and Sulu (No., 1,160)	Total or Average (No., 1,478*)
Children	0	65.09	59.91	61.03
Adults	0	34.91	40.09	38.97

* Excluding unreported cases from the province of Mindoro. There had been altogether 399 cases under the Division of Provincial Sanitation instead of 318.

TABLE 6.—*Specific Morbidity Rates per Ten Thousand of Children and Adults, Respectively, as Compared with the Specific Percentage of Immunized Inhabitants in Each of the Two Groups, During 1921*

	Children		Adults	
Division	Morbidity Rate	Per Cent. of Immunized Population	Morbidity Rate	Per Cent. of Immunized Population
The provinces	0.71	24.26	0.18	13.58
Mindanao and Sulu	35.86	11.07	10.95	16.47

other words, the virulent strain had presumably increased the chances of infecting some of those with positive "takes" during the year, by overcoming the resistance and immunity afforded by vaccination.

This phenomenon had occurred in the provinces of Albay, Capiz, Cebu and Negros Occidental, in which the number of cases among the successfully vaccinated showed a slight increase over the other infected regions; namely, the provinces of Iloilo, Masbate, Negros Oriental, Pampanga, Romblon and Sorsogon. In the former provinces, a total of 47.47 per cent. of the ninety-nine cases occurred among the vaccinated, while in the latter, 4.93 per cent. out of 203 cases occurred in that group. Again, in the former, the specific morbidity rates for the vaccinated were 1.73 per 10,000 of immunized population, and 0.31 for the unimmunized; while, in the latter, such rates were 0.36 and 1.73, respectively. The mortality rates in the two groups were likewise 0.28 and 0.53 per 10,000 inhabitants of the provinces concerned.

However, it is estimated that in that year, only 14.05 per cent. of the population in the former group, against 19.78 per cent. in the latter, were successfully immunized. The percentage fatalities (per hundred cases) in both groups were 54.54 and 30.88, respectively. It may, therefore, be possible that perhaps a large number of the smallpox cases that occurred during 1921 in the first group of infected provinces showed positive vaccination scars in which the immunity had already waned, owing to the length of time that had elapsed. Moreover, the determination of positive "takes" of either recent or old vaccinations has been in certain instances occasionally difficult, especially for untrained sanitary inspectors.

TABLE 7.—*Specific Morbidity Rates in Infected Provinces of Mindanao and Sulu, as Compared with the Total or Average*

Localities	Vaccinated in 1921 with Positive Results		Not Vaccinated or Unsuccessfully Vaccinated in 1921	
	Population	Morbidity Rate	Population	Morbidity Rate
Mindanao and Sulu.....	57,131	1.40	268,301	42.94
Total or average of the provinces, and Mindanao and Sulu.....	670,085	0.97	3,257,398	4.29

Limiting our studies to six infected and representative provinces, the specific morbidity rates of immunized cases per 10,000 of immune population were high in those in which the percentages of immune population were low, and conversely. This is clearly indicated in Table 8.

Other measures, such as isolation or hospitalization and adequate treatment of the cases, and disinfection of the premises, had to some extent modified the incidence of the unvaccinated among the "unprotected" population in the infected localities.

The necessity of immunizing the young population in the provinces, as is being done more vigorously in Manila, may be shown by Table 9, in which it is observed tha in provinces where there is relatively a greater proportion of children, the specific morbidity rates among them were generally greater.

It may be surprising to note that in the province of Romblon, in which the percentage of immunized population in 1921 had been high (27.63 per cent.), the specific morbidity rates in children and adults were likewise high; but it should be recalled that this province had contributed the largest number of cases (ninety-four), all of which were in unvaccinated persons. Moreover, it had the largest total morbidity and mortality rates among the infected provinces; 14.15 and 5.72 per 10,000 population, respectively. On the other hand, in the province of Sorsogon, in which more than half of the total population (55.48 per cent.) was successfully vaccinated in 1921, and incidentally an equal proportion was of the young population, the specific morbidity rate was only 0.67 per 10,000 of the latter, and no case occurred among the adults.

TABLE 8.—*Specific Morbidity Rates per Ten Thousand Immune and Nonimmune Population, Respectively, as Compared with the Percentage of Immune on the Total Inhabitants of Each Province Concerned, During 1921*

Provinces	Morbidity Rates		Percentage of Immunized Population
	Immunized	Nonimmunized	
Albay.....	2.21	0.21	13.49
Capiz.....	3.67	1.14	13.01
Masbate.....	6.26	3.83	4.49
Oriental Negros.....	1.63	2.70	17.06
Romblon.....	0	19.55	27.63
Sorsogon.....	0	0.48	55.48
Total or average.....	1.32	2.37	20.80

As has been previously pointed out, the incidence of smallpox during 1922 has been epidemiologically negligible; and the relation of the disease to successful vaccination anywhere in the islands is practically the same; namely, that generalized and systematic vaccination with positive result renders relative immunity to the public, as well as to the individual against smallpox infection, diminishes the case fatality, and, in terms of population. lessens the mortality rate.

CONCLUSION

1. Interpreting the foregoing statistical results, it is firmly believed that protection of the public is afforded by systematic and successful antivariolar vaccination. There are no other factors to which the eradication of smallpox in Manila and the rapid reduction of the morbidity and mortality rates in the provinces during 1921 and 1922 may be chiefly ascribed.

2. Failure to get a higher percentage of positive "takes" than 70 has been due, in large measure, to the inability of maintaining the potency of the vaccine virus, now employed, under tropical conditions. But this cannot oblige the Philippine Health Service to lay aside the hope that, with persistent efforts in vaccinating and revaccinating yearly the susceptible and the non-immunes, the time will come when the public in general will be completely immunized to withstand subsequent epidemics. It is roughly estimated that this may be attained every six or seven years, if the present system is continually kept up. Moreover, our sanitary inspectors (vaccinating parties) are now becoming more

TABLE 9.—*Percentage of Children and Adult Population, and Specific Morbidity Rates (per Ten Thousand) Among Them, in 1921*

Provinces	Percentage of Population		Morbidity Rate	
	Children	Adult	Children	Adult
Albay.....	33.51	66.49	0.27	0.58
Capiz.....	34.83	65.17	2.45	0.94
Romblon.....	33.96	66.04	34.12	3.87
Sorsogon.....	55.48	44.52	0.67	0
Total or average....	33.59	66.41	3.68	0.82

trained and experienced in the appreciation of positive "takes" and in the technic of the vaccination process.

3. In general, the specific morbidity and mortality rates of smallpox among the vaccinated have been the lowest in infected provinces in which the percentages of immunized population have been the highest, and conversely. On the other hand, all things being equal, the specific rates of the unvaccinated have been high in infected localities in which the percentages of immunized population have been low, and conversely also. Rare exceptions to this were due to the large number of susceptible children who became subsequently attacked with a more virulent strain that could not be overcome by the vaccination immunity, and those who, because of religious and various other causes, escaped vaccination.

4. On the whole, 61 per cent. of the cases during 1921 occurred among children, a great proportion of which were never vaccinated, or were unsuccessfully vaccinated. The problem, therefore, fundamentally centralized in the compulsory vaccination of children, such as is now being practiced to include infants of even 1 month old or under. And it is hoped that with subsequent modification of the vaccine virus to resist deterioration in hot weather, the actual endemic occurrence of the disease, in certain sections of the islands, will be completely done away with.

FATAL HEMORRHAGE FROM ERODED ARTERIA CYSTICA OF THE GALLBLADDER *

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Two acute dangers threaten the life of persons suffering from chronic peptic ulcer: the perforation of the ulcer into the peritoneal cavity, and fatal hemorrhage from eroded blood vessels. Fatal hemorrhages are comparatively rare events in chronic gastric ulcers. Da Costa [1] reports that only 3 to 8 per cent. of persons actually die of hemorrhage. The spread of an ulcer sometimes, though not as often as it is generally considered, causes obstruction of the blood vessels in its base by inflammatory changes in the vessel walls and by thrombosis. In this way larger hemorrhages may be prevented. But, on the other hand, the contractibility of a blood vessel embedded in the firm, cicatrized tissue of the ulcer may be impaired and so increase the possibility of abundant bleeding from smaller vessels.

My own experience is based on fifty-five cases in which the patients have died from peptic ulcer of the stomach or duodenum. In 41 per cent. of the cases perforation, and in 20 per cent., fatal hemorrhage had occurred.

Sometimes a large hemorrhage of the stomach is produced by the existence of a great many erosions of the mucous membrane, without the opening of a larger blood vessel. In most of the cases, however, a gaping vessel of larger or smaller caliber can be noted in the floor of a peptic ulcer. These eroded blood vessels are in the majority of cases arteries, especially branches of the coronary arteries of the stomach, of the gastroepiploic arteries, or the arteria gastroduodenalis or lienalis. Kaufmann,[2] and Finsterer and Glaessner [3] reported cases in which the ulcer had involved the spleen and led to an erosion of a branch of the lienal artery. Noelle [4] and Morrison [5] observed cases with fatal hemorrhages from the eroded liver. Merkel,[6] in a case of chronic gastric ulcer with abundant hemorrhage, recognized the bleeding blood vessel as the left vena renalis.

A very uncommon and interesting cause of fatal hemorrhage from a chronic gastric ulcer was noted in a necropsy which I performed recently at the request of the attending physician, Dr. Siebel.

A woman, aged about 70, well nourished, died suddenly after she had vomited large masses of blood. At necropsy, the skin was yellowish white; the mucous membranes were very pale. There were only a few livid patches. The lower extremities showed rigor mortis. The peritoneal cavity contained about 1 liter (quart) of dark red fluid blood. The intestine was distended. Dark red masses filled its lumen, as seen through its wall. The lesser curvature and the adjacent part of the anterior wall of the stomach above the pylorus were covered by, and fixed to, the lower edge of the right lobe of the liver and to the gallbladder. This connection was interrupted on the right and upper side in the region of the gallbladder. A round hole with a diameter of about 1 cm. gaped here. Clots of coagulated blood partly closed this hole. When the stomach was opened, two ulcers were seen just above the pylorus. One of them was located on the posterior surface. It was oval in a diagonal direction, and its diameter amounted to from 1.5 to 2.25 cm. Its shelving edges were indurated, and its floor was formed by the pancreas. The other ulcer involved the lesser curvature and a considerable part of the anterior wall. It was round, with a diameter of 2 cm., and it entirely penetrated the wall of the stomach. Its base consisted, in the lower part, of liver tissue deprived of the capsule and ulcerated; in the upper part, of the gallbladder. The wall of the gallbladder was there changed into a blood-stained ulcer, in the center of which gaped the lumen of an eroded artery. This proved to be the arteria cystica, a branch of the arteria hepatica. The liver was very pale yellowish brown, and firm. The ulcer on its lower edge was oval and smooth, with an almost black vascular injection. The gallbladder contained dark green bile; its mucosa showed no changes.

In the anatomic diagnosis may be noted: fatal hemorrhage from the eroded cystic artery of the gallbladder, the erosion being due to a peptic ulcer of the stomach, that had eroded the gallbladder and the right lower edge of the liver; chronic peptic ulcer of the posterior wall of the stomach; anemia of the organs; emphysema pulmonum; dilatation of the left ventricle of the heart, and a few small sclerotic plaques in the coronary arteries.

* From the Department of Pathology, University of Illinois College of Medicine, and the Uihlein Memorial Laboratory of the Grant Hospital.

1. Da Costa, J. C.: Modern Surgery, 1920, p. 1096.

2. Kaufmann: Spezielle pathologische Anatomie **1**, 1912.

3. Finsterer and Glaessner: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **27**: 1, 1913.

4. Noelle: Inaug. Diss., Greifswald, 1899.

5. Morrison, Rutherford: Stomach, in Treatise on Regional Surgery **2**: 59.

6. Merkel: Virchows Arch. f. path. Anat. **173**: 1, 1903.

The Neanderthal Man.—The most famous of the skeletal remains representing men of the old Stone Age, when surgery had its first recorded existence, are portions of a skeleton of an extinct species of man found in a cave in the valley of the Neander River, in the Rhine province of Prussia; hence the individual is known as the Neanderthal man. The proximal end of the left ulna had evidently been fractured, since there is a marked widening of the articular fossa. The left humerus also shows signs of injury, in consequence of which it doubtless remained much weaker than the right bone. Virchow thought the condition of the bones of this ancient man indicated rickets, but Schwalbe restudied the question and decided that there was no evidence of malnutrition, and his conclusions are widely accepted.—Moodie: The Antiquity of Disease, University of Chicago Press, 1923.

EXPERIMENTAL STUDIES WITH MERCURIALS IN EXPERIMENTAL SYPHILIS

WITH A BRIEF NOTE ON THEIR CLINICAL APPLICATION, ESPECIALLY AS TO FLUMERIN

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PREAMBLE, BY HUGH H. YOUNG

Clinicians generally acknowledge the supremacy of the arsphenamins in the treatment of syphilis, but, at the same time, from every branch of medicine comes the complaint of uncured cases or persistent Wassermann reactions after supposedly thorough courses of treatment. It has been more and more evident that some form of mercury is generally required to effect a cure; but there is little agreement as to which preparation is the best.

I was greatly struck with this fact when commissioned to formulate routine methods of treatment for syphilis in the American Expeditionary Forces. Thorough investigations of the methods employed, particularly in the armies of our allies, showed a general agreement that neo-arsphenamin was the most practical drug for the initial treatment, and that some form of mercury should also be used; but here the agreement ceased. The British relied mostly on intramuscular injections of mercurial oil (gray oil) or mercurial cream, while the French and Italians employed either mercuric cyanid intravenously or mercuric benzoate or red mercuric iodid intramuscularly. In America, mercuric salicylate intramuscularly, or mercurial inunctions had apparently the preference, though mercuric chlorid, red mercuric iodid, yellow mercurous iodid and other forms of mercury, given in various ways, had wide usage.

The army syphilologists of France held that intravenous injections were preferable, as being more prompt and more benign in action; and, as we decided to treat our syphilitic patients with their organizations, and not to hospitalize them, we adopted the routine most commonly employed in the French army, viz., neo-arsphenamin, at first twice and later once a week, with intervening daily intravenous injections of mercuric cyanid. The plan adopted worked admirably. We did not need our hospitals which were sent over for venereal cases, and they were turned over to the wounded and sick, while the treatment of the syphilitic soldier was carried out while he was with his organization, on a duty status. This plan not only made it possible to continue the treatment longer and to give several courses in a year, but also had an excellent effect from the standpoint of morale, by keeping the soldier at the front.

Cursory observations made during the course of the war as to the results of the methods employed convinced me that there was great need for further experimentation, both laboratory and clinical, as to the treatment of syphilis—particularly to determine more satisfactory and sure methods in the use of mercury. When, therefore, in our clinical study of antiseptic mercurials which had been prepared by E. C. White in the chemical laboratory of the Brady Urological Institute, a salt of very low toxicity, which did not coagulate albumin and could be repeatedly injected intravenously was discovered, a series of animal experiments was determined on and carried out by J. H. Hill to see whether it had definite antisyphilitic value.

TABLE 1.—*Experiments with Flumerin* *

Rabbit	Pretreatment Period	Treatment Period	Posttreatment Period	Node Transfer
181	Left testicle and epididymis indurated throughout; small lesion left scrotum; large nodule right testicle	Resolution, beginning after second dose, was complete by day of sixth dose	Held without further lesions 78 days after last dose, when node transfer was made	Negative, 90 days
182	Left testicle enlarged and indurated; nodular lesions right testicle; scrotal lesion left side	Resolution of all lesions began after second dose; right testicle normal after 3 doses; resolution of other lesions complete by fifteenth dose	Held without further lesions 78 days after last dose, when node transfer was made	Negative, 90 days
179	Testicular lesion left side excised and 9 positive transfers made; nodular lesion right testicle	Resolution, beginning after second dose, was complete on day of fourth dose	Held without further lesions until forty-fifth day after last dose, when right scrotal lesion developed, from which organisms were found by dark field	

* Fifteen doses of 5 mg. per kilogram given intravenously, six weekly, beginning the forty-ninth day after inoculation. Series selected because it parallels series treated with other mercurials.

TABLE 2.—*Experiments with Mercuric Cyanid* *

Rabbit	Pretreatment Period	Treatment Period and Posttreatment Period
202	Large nodular lesions of left testicle, 4 nodules left scrotum	Left testicle became normal by fifth dose, the scrotal nodules also resolving, with the exception of one, which at time of the thirteenth dose became worse, simultaneously with the appearance of a nodule in the left epididymis, 1 cm. in diameter; the lesion of the epididymis resolved rapidly, and was gone by the twenty-first dose; the scrotal lesion persisted, grew worse after the last dose, and 6 days after the last dose, organisms were found in it by dark field
203	Left testicle excised and 5 positive transfers made; no further lesions	Treated in latent stage, with no lesions at any time during treatment; 35 days after the last dose, a nodule appeared in the right testicle from which organisms were found by dark field
212	Right testicle and epididymis indurated throughout; scrotal lesion right side	Resolution of testicular lesion began at ninth dose, was complete by sixteenth dose; resolution of lesion of epididymis began after the thirteenth dose, and was complete by the nineteenth dose; the scrotal lesion after growing worse at the time of the sixth dose, was completely resolved 6 days after the last dose; the testicle was atrophied; held without further lesions until fifty-seventh day after last dose, when node transfer was made, which was positive in 56 days
198	Left testicle indurated throughout, nodule right testicle; lesion left scrotum	Lesions grew worse, a second scrotal lesion developing on the left side the day of the sixth dose; lesions continued to grow worse, until on the day of the fifteenth dose, excision of the lesions of the left side was necessary, actively motile organisms being found in this material; nodules developed in the right epididymis the day of the eighteenth dose; resolution on the testicular lesion on the right side began the day of the twentieth dose, and was complete 5 days after the last dose; the nodules in the right epididymis persisted 57 days after treatment, organisms being found by dark field the fifty-seventh day after treatment

* Rabbits given twenty-one doses of 0.2 mg. per kilogram of mercuric cyanid intravenously, six weekly, beginning the forty-ninth day after inoculation.

These studies with the new drug in rabbit syphilis showed such remarkable curative power that its usage in human syphilis was begun in cases in the Brady Urological Institute, the Johns Hopkins Hospital Department of Syphilis, and at the Walter Reed General Army Hospital. The results of some of this work were presented in a previous paper.[1] Additional experience has shown the great value of the new mercurial, flumerin; but before proceeding further it seemed wise to apply the same methods of study of rabbit syphilis which had so effectively shown the spirocheticidal value of flumerin to other mercurials now in common usage, which, strange to say, had never been done. The first drug selected was mercuric cyanid, which is widely used in intravenous injections, 1 c.c. of a 1 per cent. solution daily being the usual dosage. The amount used in our rabbits corresponded to this dose.

Other drugs commonly used in America are mercuric salicylate and red mercuric iodid intramuscularly, and it was thought wise to subject them to the same experimental tests so as to be able to compare all three with the results obtained with flumerin in rabbits infected with *Spirochaeta pallida*.

In the following brief report of her very valuable series of experiments, Miss Hill has not only accurately recorded the results, including the measurements of the lesions from day to day, but, after holding the animals for prolonged periods, has tested out the permanence of the supposed cure by inoculation of the lymph nodes into other rabbits. Never before have mercurials been subjected to such exacting methods, and when her complete report is published, a most noteworthy contribution to syphilology will be presented.

TABLE 3.—*Experiments with Mercuric Salicylate* *

Rabbit	Pretreatment Period	Treatment Period
192	Entire right testicle enlarged and indurated, small serotal lesion on right side	No resolution of lesions, which grew worse, a second serotal lesion on the right side appearing after the fifth dose, simultaneously with the appearance of induration of left testicle; 2 lesions appeared on left scrotum after sixth dose; all lesions grew worse, until, after tenth dose, excision of lesions on right side was necessary, a small number of organisms being found by dark field in this emulsion; one serotal lesion on left side then resolved, the other persisting
204	Large lesion left testicle, serotal lesion forming left side	Lesions grew worse on left side, a lesion appearing in right testicle at third dose; lesions grew worse, until, after fifth dose, excision of lesions on left side became necessary and organisms were found in them by dark field; a nodule appeared in the right epididymis after the sixth dose, the right testicular lesion resolving; this nodule began to resolve after the eighth dose, and was entirely gone 8 days after the twelfth dose; a nodule appeared in the right testicle 46 days after the last dose
205	Large lesion throughout left testicle	No change in lesion until after fourth dose, when it became worse, a serotal lesion developing on the left side at the sixth dose; this grew worse, breaking down the day of the eighth dose, when it was excised
211	Left testicle excised and 6 positive transfers made; right testicle indurated before treatment	Lesion remained the same until after the second dose, when it grew worse, a serotal lesion developing then; resolution of the testicular lesion began after the fifth dose and was complete in 8 days, resolution of the right serotal lesion beginning at the time of the seventh dose, complete after the tenth dose

* Rabbits given twelve doses of 0.6⅝ mg. per kilogram of mercuric salicylate intramuscularly, at weekly intervals, beginning the forty-ninth day after inoculation.

TABLE 4.—*Experiments with Red Mercuric Iodid* *

Rabbit	Pretreatment Period	Treatment Period
213	Right testicle and epididymis greatly enlarged and indurated	No change in lesions until twelfth dose, when serotal lesion apeared on right side, followed by second serotal day of twenty-first dose; the lesions of the testicle and epididymis resolved between the twenty-first and twenty-fifth doses; at end of treatment there remained 2 serotal lesions, 1 being 2 by 1.5 cm., the other 0.25 cm. in diameter; these gradually resolved, until no macroscopic lesions could be observed the twenty-fourth day after the last dose
215	Right testicle and epididymis indurated, 2 serotal lesions on right side	Lesions worse until after fifth dose, when marked improvement was noted, resolution continuing, serotal lesion being healed by twenty-first dose, the other by twenty-fifth dose, when the testicular lesion was also completely resolved; a 0.5 cm. nodule persisted in the right epididymis after treatment, until 2 weeks after the last dose, when resolution was complete
222	Part of lesion in right side excised, leaving right side enlarged and indurated throughout	Operative wound healed rapidly during treatment, the induration being gone by the fifteenth dose; held for observation and transfer
207	Well-developed 1.5 cm. lesion of right scrotum	Lesion remained unchanged until eighteenth dose, when serotal lesion began to resolve, being completely healed by the twenty-first dose; a well-defined nodule appeared in the left testicle at the tenth dose, which had resolved by the twenty-second dose

* Rabbits given twenty-five doses of red mercuric iodid, six doses weekly, beginning about the fiftieth day after inoculation.

TABLE 5.—*Summary of Treatment of Fifty Cases with Flumerin*

Stage of Syphilis	Number of Cases	Lesions Healed	Average No. of Days to Heal Lesions	Serologic Result (Blood) Good	Serologic Result (Blood) Poor	Average No. of Doses to Reduce Wassermann
Primary.....	5	4	22	4	1	3 remained 0 1 case, 12 doses
Secondary.....	21	21 Relapse in 1 case	19	11	10	8
Tertiary.....	24	19 Improved in 5 cases	25	9	15	10

GASTRO-INTESTINAL REACTIONS FROM FLUMERIN

Total Doses Given	Number of Injections Followed by: Immediate Nausea or Vomiting, Mild	Immediate Nausea or Vomiting, Severe	Cramps	Diarrhea, Mild	Diarrhea, Bloody
945.....	22 (2.3%)	19 (2.01%)	7 (0.7%)	10 (1.0%)	8 (0.9%)
	41 (4.3%)				

REACTIONS FROM FLUMERIN

Total Patients	Stomatitis: Total Cases	Stomatitis: Mild	Stomatitis: Severe
96	36 (37.5%)	30	6 (6.2%)

	Urine Examinations: No Change	Existing Abnormalities Cleared up Under Flumerin	Transient Albuminuria or Casts During Treatment
77	50	10 (12.9%)	17 (22%)

	Phenolsulphonephthalein Output: No Change	Increased Plus 10 or More	Decreased Minus or More
61	36	16 (26.2%)	9 (14.7%)

EXPERIMENTAL WORK, BY JUSTINA H. HILL

At the time that the preliminary report[1] of our study of the action of flumerin on rabbit syphilis was made, there were no studies by the same method of the action of other mercurials, so that, while the marked antisyphilitic action of flumerin was demonstrated, it was not known whether this was greater or less than the action of the mercurials commonly used. Since then, syphilitic rabbits have been given the equivalent of the clinical course of treatment with mercuric cyanid, mercuric salicylate and red mercuric iodid. Although

1. White, E. C.; Hill, J. H.; Moore, J. E., and Young, H. H.: Flumerin: A New Mercurial for the Intravenous Treatment of Syphilis, J. A. M. A. 79: 887 (Sept. 9) 1922.

some of these experiments are incomplete, enough indication of the action of these drugs has been obtained to make a preliminary report of some value.

METHOD

Two ways are available for carrying *Spirochaeta pallida* infections in rabbits, with the initial lesion in the testicle or scrotum, methods developed by Brown and Pearce. By the first,[2] a rabbit with a progressing testicular or scrotal lesion is placed under ether anesthesia and the lesion excised with aseptic precautions. This material is placed in a mortar with a few cubic centimeters of physiologic sodium chlorid solution, minced with scissors and emulsified by grinding. If dark field examination shows the presence of organisms, the material is suitable for inoculation. This is done by injecting not more than 0.5 c.c. into the testicle or scrotum or both of normal rabbits. Unilateral inoculations are preferable, as the uninoculated side serves as a control at first. By the second method,[3] the popliteal nodes of untreated syphilitic rabbits, which may or may not show lesions at the time of transfer, are excised, emulsified and injected as by the first method. Dark field examination of such material seldom shows organisms, although such transfers regularly produce the infection. The first method has been used in general in these experiments because more material is available for the inoculation of a number of animals from the same emulsion. The strain of organism used has been the Nichols[4] strain, first isolated in 1912, and since carried in rabbits, an animal with a testicular infection with this organism having been given us through the kindness of Dr. Wade Brown. No *Treponema cuniculi* infections have been found.

Lesions at the site of inoculation develop from fourteen to thirty days after inoculation. Treatment may be started any time after the appearance of lesions, but most of these experiments have been done with fully developed lesions; that is, treatment has been started about the fiftieth day after inoculation. After treatment, animals in which lesions have resolved are held for observation, usually for about fifty days. If no relapse occurs during this time, popliteal node transfers are then made, the greatest care being taken not to overdilute the emulsion, the entire available fluid part of which is injected into the testicles of one rabbit. If this transfer animal remains without a lesion during ninety days of observation, it is concluded that the antisyphilitic action of the drug tested has been sufficient to drive the organisms from the popliteal nodes of the treated animal, from which Pearce and Brown[5] have shown that they may be recovered regularly from untreated rabbits. A positive node transfer indicates subcurative action.

The method is of great value, because it allows the study of the action of drugs in latent syphilis, when the animal treated is without lesions, but from which a positive node-transfer may be obtained if subcurative treatment has been given, a marked advantage over earlier methods, which were limited to the observation of local lesions.

FLUMERIN

The experiments summarized in the first paper showed that flumerin has marked antisyphilitic action, if given either in large single doses or in repeated doses of 5 mg. or more per kilogram. When the tolerated single dose of 30 mg. per kilogram was given, in three out of four cases, node transfer was negative, in the fourth, positive. All of these animals showed transitory albuminuria the day after treatment, which disappeared in three days. All lesions were resolved within five days. With the smaller single dose of 20 mg. per kilogram given four rabbits, the maximum number of days required for the resolution of lesions was eleven, and in only one case was the node transfer negative. One animal showed a transitory albuminuria.

Fig. 1 (Rabbit 212).—Appearance of lesions before treatment: left side, normal; right side, testicular and scrotal lesions.

Fig. 2 (Rabbit 212).—After seven doses of mercuric cyanid: lesions on right side larger.

Fig. 3 (Rabbit 212).—After fourteen doses of mercuric cyanid: resolution in progress.

Five animals were given from four to eight doses of 10 mg. per kilogram on alternate days. In no case was there any albuminuria. There was complete resolution of lesions in every case. In the two cases in which node transfers were made, they were negative.

Our chief interest has centered on the action of repeated doses of 5 mg. per kilogram, as this seems to be a dose which can be used clinically and which has shown marked action in rabbits. In the first series of five animals so treated, two of which showed a transitory albuminuria, resolution of lesions was prompt invariably, and node transfers were negative in every case. A second series of three animals, given fifteen daily doses of 5 mg. per kilogram, is described in Table 2, as these animals have been treated under conditions

2. Brown, W. H., and Pearce, Louise: Experimental Syphilis in the Rabbit, I, Primary Infection in the Testicle, J. Exper. Med. **31**: 475 (April) 1920.

3. Brown, W. H, and Pearce, Louise: Latent Infections with the Demonstration of Spirochaeta Pallida in Lymphoid Tissues of the Rabbit, Am. J. Syph. **5**: 1 (Jan.) 1921.

4. Nichols, H. J., and Hough, W. H.: Demonstration of Spirochaeta Pallida in the Cerebrospinal Fluid, J. A. M. A. **60**: 108 (Jan. 11) 1913.

5. Pearce, Louise, and Brown, W. D.: A Study of the Relation of Treponema Pallidum to Lymphoid Tissues in Experimental Syphilis, J. Exper. Med. **35**: 39 (Jan.) 1922.

as parallel as possible to those under which other mercurials have been given. Node transfers from two of these animals were negative; in the third case there was a relapse. With a total of eight rabbits, therefore, given repeated doses of 5 mg. per kilogram, in every case resolution of lesions has been rapid; in seven node transfers were negative, and in one case there was a relapse.

Fig. 4 (Rabbit 204).—Appearance before treatment: left testis indurated; scrotal lesion forming on left side.

No further experiments have been done with repeated doses of 3 mg. per kilogram, which was shown to be subcurative in three out of the four cases tried, only one giving a negative node transfer.

MERCURIC CYANID

The details of the experiments with mercuric cyanid are given in Table 2. The drug was given intravenously, in doses of 0.2 mg. per kilogram, six weekly, with a total of twenty-one injections. The cyanid, as an intravenous mercurial, is the most comparable to flumerin. The important facts shown in Table 3 are these: In one case, Rabbit 203, treated in the latent state, although there were no lesions during treatment, nodules developed thirty-five days after the last dose, from which numerous organisms were found by dark field examination. Two rabbits had lesions which persisted throughout treatment and from which organisms

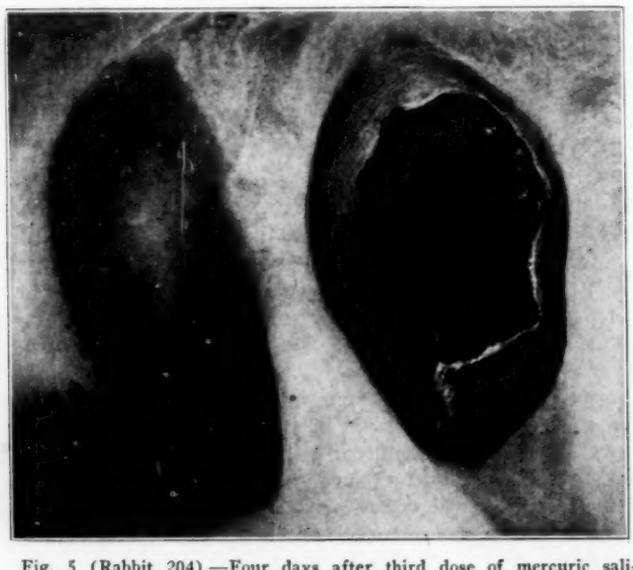

Fig. 5 (Rabbit 204).—Four days after third dose of mercuric salicylate: large lesion on right testis; scrotal lesion on left side worse.

were found after treatment. In one case, Rabbit 198, the scrotal lesion on one side became so much worse during treatment that excision was necessary the day of the fifteenth dose, when organisms were found in the emulsion. In only one case, Rabbit 212, has there been complete resolution of lesions, following the appearance of a new lesion during the first part of the treatment, node transfer from this animal, however, being positive in fifty-six days.

These experiments show that this treatment is subcurative in four cases, and that in the only case in which there was marked therapeutic action the resolution of lesions was so gradual that it would be impossible to distinguish it from the resolution of untreated lesions. Node transfer has been positive from this animal. These experiments parallel the flumerin experiments in method of administration, treatment interval, and in period of infection treated, with the difference that the cyanid series received six more treatments than the flumerin series.

MERCURIC SALICYLATE

Mercuric salicylate was given intramuscularly in oil, in weekly doses of 0.6⅔ mg. per kilogram, with a total of twelve doses (Table 3). The following points may be noted from these animals, which are still under observation: In all four cases the lesions present before treatment grew worse during the first half of the injection period, and new lesions developed, in one case organisms being found by dark field examination after

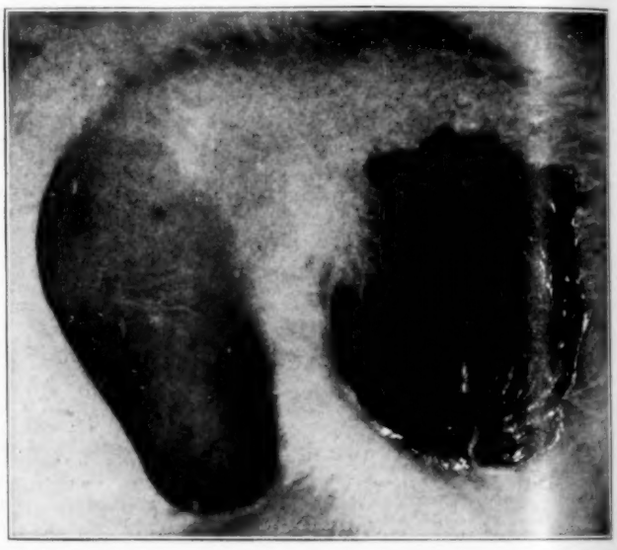

Fig. 6 (Rabbit 204).—Two days after fifth dose of mercuric salicylate: large lesion on right testis; left scrotal lesion broken down.

the fifth dose, in another, after the tenth dose. As has been shown by Schamberg, Kolmer and Raiziss,[6] the rate of absorption of salicylate is about 1 per cent. a day. The treatment period must include 100 days after the last injection. In our series, the amount of mercury absorbed during the first six weeks of treatment is shown to be insufficient to check the spread of the infection. Some resolution was noted in the latter part of the injection period. These rabbits will be held for fifty days after the treatment period, and node transfers will be made from any then without lesions. One hundred days after the last injection, however, one animal has a scrotal lesion which has persisted throughout treatment, and another a nodular testicular lesion which developed the forty-sixth day after the last injection.

RED MERCURIC IODID

Red mercuric iodid was given intramuscularly, six doses a week, with a total of twenty-five doses. The dosage was increased from an initial injection of 0.1⅔ mg. per kilogram to 0.2⅔ mg. per kilogram, the latter

6. Schamberg, J. F.; Kolmer, J. A., and Raiziss, J. W.: A Study of the Comparative Toxicity of the Various Preparations of Mercury, J. Cutan. Dis. 33: 787 (Dec.) 1915.

dose being reached by the tenth injection. The details of this series are found in Table 4. This shows that, although in two cases resolution of lesions was incomplete at the end of the injection period, and although resolution began only after at least five doses, resolution has been complete in every case. Only further observation and node transfer can show whether these

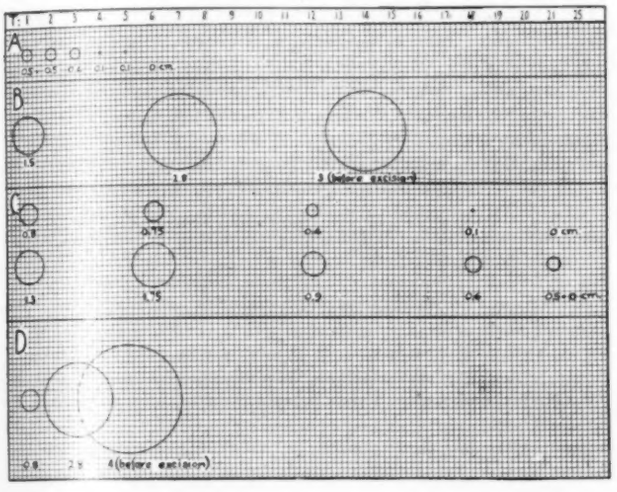

Fig. 7.—Diagram from measurements, showing action of mecurials on scrotal experimental rabbit syphilis: *T*, treatment; *A*, with flumerin, Rabbit 181; *B*, with mercuric cyanid, Rabbit 198; *C*, with red mercuric iodid, Rabbit 215, two lesions; *D*, with mercuric salicylate, Rabbit 204. The measurements are given in centimeters; each small square represents 2 mm.

animals are in a condition of latent syphilis, or whether the disease has been driven from the lymphatics.

SUMMARY

The marked antisyphilitic action of flumerin has been demonstrated further, fifteen doses of 5 mg. per kilogram being employed. The slight action of mercuric cyanid, given in twenty-one doses of 0.2 mg. per kilogram, and the lack of therapeutic action of mercuric salicylate, during the first part of treatment with twelve doses of 0.6⅔ mg. per kilogram, under which all animals grew markedly worse before enough mercury was absorbed to check the infection, have been shown. The slow but complete resolution of lesions under treatment with red mercuric iodid given in twenty-five doses of from 0.1⅓ to 0.2⅔ mg. per kilogram has indicated the antisyphilitic action of this drug, although the permanence of its action has not yet been demonstrated.

COMMENTS, BY HUGH H. YOUNG

Flumerin in repeated doses of 5 mg. per kilogram is shown by the preceding experiments to be of much greater value than mercuric cyanid in repeated doses of 0.2 mg. per kilogram; mercuric salicylate in repeated doses of 0.6⅔ mg. per kilogram, or red mercuric iodid in repeated doses of from 0.1⅔ mg. to 0.2⅔ mg. per kilogram in rabbits infected with *Spirochaeta pallida*. This was to be expected from mercuric cyanid, since we can introduce from six to ten times as much mercury by flumerin intravenously as is possible with mercuric cyanid. The fact that flumerin is so much more effective experimentally than the others which cannot be used intravenously would seem to warrant its extended trial in clinical syphilis. Only by its use in the most exacting clinics over a long period of time will its comparative value in all forms of syphilis be determined.

In our first series of 100 cases, the maximum dose employed in all but twenty-five cases was about 3 mg. per kilogram of body weight; but Miss Hill's experimental work has shown that consistent results could not be expected from less than 5 mg. per kilogram, and in over thirty human cases the facility with which this dosage can be used has been amply demonstrated, and much better results have been obtained than with the smaller dose.

In my own practice I usually employ neo-arsphenamin with intervening daily intravenous injections of flumerin, 5 mg. per kilogram, and have yet to see a serious reaction. The impunity with which the drug may be injected repeatedly into the same vein is of great advantage, as is the feeling of certainty engendered by intravenous administration.

SACROCOCCYGEAL CHORDOMA *

EDWIN F. HIRSCH, M.D.
AND
MARY INGALS, B.S.
CHICAGO

Chordomas are tumors arising from remnants of the notochord. They are reported to occur at the two extremes of the vertebral column; namely, at the base of the skull along the clivus, and opposite the sacrum and coccyx. Luschka,[1] in 1856, recorded the first chordoma arising from the clivus. Virchow,[2] in 1857, made the first complete description, but thought the tissue was essentially cartilage with softening of the cartilage matrix and hydropic degeneration of the cells. In describing these cell changes he introduced the term "ecchondrosis physaliphora." His tumor, also, was located near the spheno-occipital synchondrosis. Müller,[3] in 1858, first suggested that these tumors

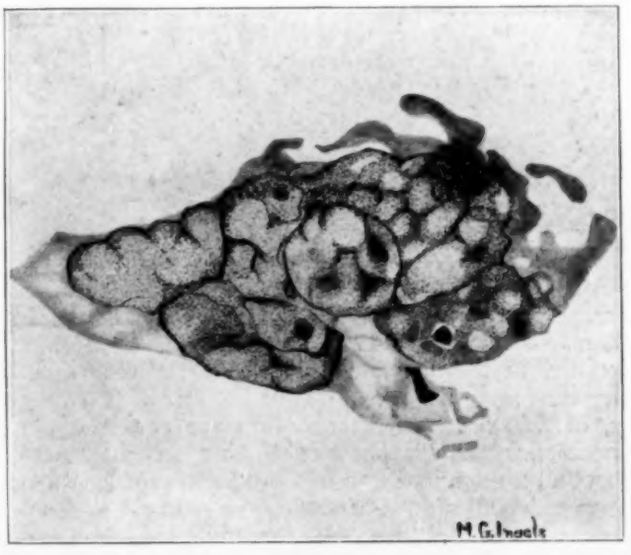

Fig. 1.—High power drawing of "physaliphora cells," illustrating their marked mucoid degeneration.

may be of notochord origin, and that retained fragments of notochord tissue may be demonstrated in the

* From the Pathological Laboratory of St. Luke's Hospital.

1. Luschka, H.: Ueber gallertartige Auswuchse am Clivus Blumenbachii, Virchows Arch. f. path. Anat. **11**: 8-11, 1857.
2. Virchow, Rudolf: Untersuchungen über die Entwickelung des Schadelgrundes, Berlin, 1857.
3. Müller, H.: Ueber das Vorkommen von Resten der Chorda dorsalis bei Menschen nach der Geburt, und über ihr Verhältnis zu den Gallertgeschwulsten der Clivus, Ztschr. f. rationelle Med. **2**: 202-229, 1858.

basilar cartilage and sacrum of man and animals, and that in the fetus the notochord extends to the sella turcica. In the spheno-occipital synchondrosis it persists as a small mass of soft tissue analogous to the nucleus pulposus of the intervertebral disks. This tissue persists here even after birth, although it has disappeared from the neighboring bones and cartilage.

Müller's views concerning the chordoma and its origin were not accepted by Virchow and others at that time, but in 1894 Ribbert [4] confirmed them conclusively. The first sacrococcygeal chordomas of clinical interest in man were reported by Feldmann [5] and Mazzia [6] in 1910, although Hennig,[7] in 1900, had reported a sacral tumor containing notochord tissue in a seven months' fetus. Ribbert asserts that he found notochord tumors of the clivus in 2 per cent. of his necropsies, but no such frequency is mentioned by others. Stewart,[8] in 1922, reviewed the chordomas, recorded in the literature, in which definite clinical symptoms were manifested. His list mentions twenty-six, of which fifteen occurred in the region of the spheno-occipital synchondrosis, nine in the sacrococcygeal region, and two others in aberrant locations. Stewart includes in this list his report of a sacrococcygeal chordoma which recurred and produced metastases. Lemke [9] reports a malignant chordoma of the clivus with destruction of the regional tissues. His review of the literature mentions thirteen of these malignant tumors reported in this location. Another malignant sacrococcygeal tumor is reported by Bérard, Dunet and Peyron.[10]

Fig. 2.—Low power drawing illustrating the structure of the chordoma.

Many of the early reports of chordomas mention small nodules along the course of the basilar artery, arising from some part of the clivus and usually without symptoms. It seems, then, that these tumors are of low malignancy, grow slowly, and at first are encapsulated. However, they may develop marked invasive properties, and recur after removal. Remote metastases with such malignant forms are uncommon.

The gross appearance of a chordoma, while not always the same, generally resembles colloid carcinoma tissue; that is, the tissue is nodular, the individual nodules being separated by bands of white fibrous tissue, and contain cell masses of varying dimensions, which have undergone mucoid degeneration. In the histologic preparations there are groups of large cells resembling epithelium with clear staining cytoplasm, which at first contain small granules responding to the mucin stains but later become vacuolated (mucin vacuoles) and much larger in size (physaliphora cells). After the escape of mucin, the cells are shrunken and necrotic, and the nuclei form irregular, dark staining masses.

All of the sacrococcygeal chordomas reviewed and reported by Stewart and the one reported by Bérard, Dunet and Peyron are malignant; the one mentioned in this report has not recurred after three years:

A man, aged 54, was admitted to the service of Dr. S. C. Plummer at St. Luke's Hospital complaining of a painless, round, firm mass in the midline of the back opposite the sacrum. It was observed first about eighteen months before, as a tumor about the size of a walnut. Six weeks before admission, the patient noticed that it had grown larger, but there were no symptoms other than pressure and inconvenience in sitting. The tumor, a slightly nodular encapsulated, gray-white tissue, roughly pear-shaped, 9 by 9 by 3.5 cm., attached behind to the sacral vertebrae, was removed under local anesthesia. The surfaces made by sectioning the tumor contained gray-white opaque tissue separated into nodules by septums of fibrous tissue, and were moist with a viscid, mucilaginous liquid.

Histologically the tissue contained vacuolated cells like those mentioned as present in a chordoma (Figs. 1 and 2). Mucin granules in the cytoplasm were demonstrated by the orange G-polychrome methylene blue stain in cells containing small vacuoles. Outside the cells were large, irregular spaces filled with mucin. Septums of fibrous tissue supported these masses of cells.

Sacrococcygeal chondromas, while relatively infrequent, deserve consideration clinically because of their tendency to recur. While practically all reported are malignant, the growth generally remains regional, and remote metastases are infrequent.

4. Ribbert: Ueber die Ecchondrosis physalifora spheno-occipitalis, Centralbl. f. allg. Path. u. Path. Anat. **5**: 457-461, 1894.
5. Feldmann, I.: Chordoma ossis sacri, Beitr. z. path. Anat. u. z. allg. path. (Ziegler's) **48**: 630-634, 1910.
6. Mazzia, O.: Chordom der Sakralin gegend, Centralbl. f. allg. Path. u. path. Anat. **21**: 769-772, 1910.
7. Hennig, L.: Ueber congenitale echte Sacraltumoren, Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's) **28**: 593-619, 1900.
8. Stewart, M. J.: Malignant Sacrococcygeal Chordoma, J. Path. & Bacteriol. **25**: 40-62 (Jan.) 1922.
9. Lemke, R.: Ein Fall von malignem Chordom der Schadelbasis, Virchows Arch. f. path. Anat. **238**: 310-323, 1922.
10. Bérard, Dunet and Peyron: Abstr. Centralbl. f. allg. Path. u. path. Anat. **33**: 194-195, 1922.

Hemoglobinuric Spirochetosis.—At the recent Far Eastern Medical Congress, W. Schueffner and E. P. Snijders reported that spirochetes resembling the spirochete of infectious jaundice were found numerous in all the organs in a fatal case of clinical typical blackwater fever. Noc has reported a similar case since, which confirms the possibility of spirochetosis icterohaemoglobinurica.

SPONTANEOUS RUPTURE OF THE HEART IN A CASE OF ULCERATIVE ENDOCARDITIS *

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WASHINGTON, D. C.

Spontaneous rupture of the heart, though a rare occurrence, has many examples in literature. To Harvey is attributed the first observation of a case, and Morgagni himself, who wrote much on the subject, strangely enough succumbed to this unusual accident. George II of England also died from a tear in the wall of the right ventricle. The history of this case is so typical and is so quaint in its wording that I make a short quotation from Dr. Frank Nicholl's[1] report: "About seven o'clock in the morning a noise was somewhere heard, as if a large billet had fallen down, and upon inquiry His Majesty was found fallen down on the ground, speechless and motionless. He appeared to have come from his necessary stool and as if going to his escritoir." An attempt was made to let blood, but the king did not revive. At the necropsy an opening was found in the upper side of the right verticle and about a pint of blood in the pericardium.

PATHOLOGY

It is almost certain, as was maintained by Morgagni, that a rupture never occurs in a sound heart muscle, the most frequent cause being fatty degeneration or infiltration of the muscles, and occlusion of the coronaries. Less commonly, myomalacia, abscess, gumma, echinococcus cysts and new growth are responsible.

Authors seem to agree that the vast majority of ruptures take place in the wall of the left ventricle, usually not far from the apex. Next in order of frequency come the right ventricle, right auricle and left auricle.

The size of the opening varies usually from 0.5 cm. to 1 or 2 cm. in length. Cases have been reported, however, in which the tear extended the entire length of the ventricle.

The immediate cause of the rupture is usually some exertion, but not a few cases have been reported in which the break has occurred during sleep.

SYMPTOMS

Probably in more than 70 per cent. death is instantaneous; but there may be a sense of anguish in the cardiac region with a feeling of suffocation, and life may be prolonged for several hours. Osler speaks of seeing a case in which the patient walked up a steep hill and lived for thirteen hours after the rupture occurred, and there is one case, at least, in which the patient survived for eleven hours.

It seems likely that the rapidity of death depends to some extent on the size of the rent and on the manner in which the muscle fibers are separated; i. e., whether the entire thickness of the wall gives way at once or by degrees.

Death results from shock, or from pressure produced by the overdistended pericardium.

REPORT OF CASE

History.—E., a man, aged 58, complained, Nov. 5, 1920, of pain in the back of his neck, and a general feeling of weakness; he had not been well for several days, but had kept at his work. He gave the history of an old prostatic trouble, and said that for years he had been told that he had an endocardial lesion, which, however, gave him no trouble.

He was well built, and except for a peculiar pallor of the skin, which he always had, was a healthy looking man. Gonorrhea in early youth was the only history of venereal disease. There was, however, a history of abscessed teeth, and it is possible that the infection may have originated from them.

Examination revealed a moderately enlarged heart, with a loud, harsh systolic murmur over the entire precordia, transmitted to the vessels of the neck and to the axilla, with greatest intensity over the second rib and sternum and at the apex. There was no diastolic murmur, nor was there any accentuation of either second sound. The radials were slightly thickened; there was no broadening of the dulness over the aortic arch. The blood pressure was normal; the lungs were clear; the abdomen and the reflexes were normal.

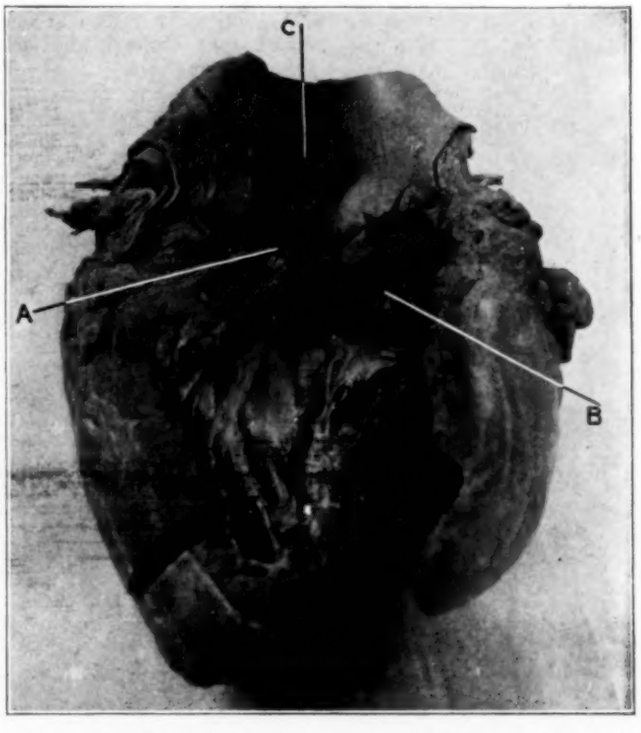

Fig. 1.—Interior of left ventricle and aortic orifice: *A*, character of vegetations on aortic leaflets; *B*, site of erosion, ulceration and rupture, from which section for microscopic examination has been removed; *C*, interior of dilated aortic root.

The urine showed a specific gravity of 1.016; no sugar, but a trace of albumin, with granular casts and a few pus cells. The indisposition continued with an irregular temperature, varying from normal to 102, and one week later (November 12) the leukocyte count was 21,000, with a relative increase in the polymorphonuclears. The Widal and Wassermann tests were negative. The course of the illness, together with the history of an old endocardial lesion, the irregular temperature and increased leukocytes now aroused the strong suspicion of septic endocarditis.

Dr. Frances F. Hagner, who had previously treated the prostatic trouble, was called in but was quite positive that the bladder condition was in no way responsible for the symptoms.

The leukocyte count, November 14, was 12,000, and a blood culture was negative. By November 19 the fever range was quite irregular but much higher, 104 F., and severe chills and sweats had set in. Dr. L. F. Barker now saw the patient, and fully concurred in the diagnosis of septic endocarditis, which was, that date, confirmed by positive blood findings which showed *Streptococcus viridans* in pure culture.

* Read before the Medical Society of the District of Columbia, Oct. 18, 1922.

1. Nicholl, Frank: Phil. Tr. London **52**: 266, 1761.

The patient grew rapidly worse, the temperature reaching 105, with most distressing chills and intense sweats. November 26, he complained of sudden pain in the heart and died in a few minutes, probably from shock, as the internal hemorrhage was small. The entire course of the illness, after the patient took to his bed, had been just three weeks.

Necropsy.—The necropsy, performed by Dr. Oscar B. Hunter, revealed, in the right pleural cavity, a small amount of bloody fluid; there were no adhesions or tumors. The right lung was markedly congested, particularly posteriorly, apparently for the most part postmortem hypostasis; there were some, but relative few, and apparently recent, bronchopneumonic spots in the less congested areas.

The left pleural cavity contained about 250 c.c. of bloody fluid; there were few old adhesions to the apex of lung, and some to the medial aspect of the lower lobe. The congestion was similar to that seen in the right lung, but more marked; pneumonic spots also were present.

The pericardium was acutely congested; on section it showed a moderate amount of bloody fluid, with small clots.

The heart was enlarged; there was a normal amount of pericardial fat, which was hemorrhagic in the region of the left auricular appendix. The musculature was soft and friable, with evidence of definite myocarditis. The cavity of the right auricle was dilated; the right ventricle was contracted.

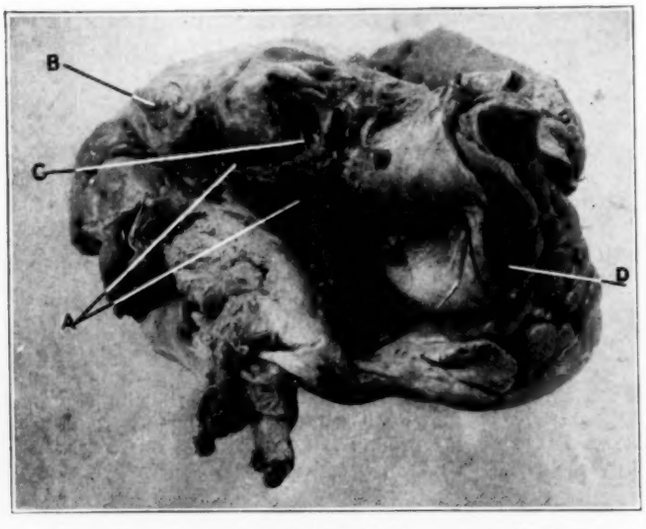

Fig. 2.—Heart from above: *A*, hemorrhagic extravasation from aorta into superior wall of left atrium and left atrial appendix; *B*, tip of left atrial appendix; *C*, site of rupture; *D*, dilated aortic root.

The tricuspid valve leaflets were slightly thickened, with loss of their surface luster, but otherwise apparently normal, except toward the base, where the interatrial wall presented a few deep, interstitial, hemorrhagic spots. None of these spots were observed on the interventricular septum, from the right side. The pulmonary semilunar cusps were apparently normal except for the loss of their usual luster and firmness, being flabby, with flattening of the corpora aurantii and loss of outline of the lunulae. The pulmonary artery showed no well defined changes.

The left auricle and ventricle were dilated; the musculature was soft and somewhat friable. Beneath the endocardium of the auricle, in the interatrial septum, there was extensive discoloration from interstitial hemorrhage, which extended downward into the interstitial tissue of the mitral valve, involving both leaflets.

The anterior leaflet of the mitral valve was considerably thickened, nodular and discolored by hemorrhage, but not shortened. The posterior valve was wrinkled, thickened at the base, and also showed hemorrhagic extravasation into it, especially at the medial aspect.

Under the valve leaflets this hemorrhage could be seen infiltrating the musculature of the ventricle in the region of the annulus fibrosis.

The aortic cusps showed extensive thickening, and were distorted, with excessive vegetations somewhat verrucous in character, and greenish gray, with softening necrosis and ulceration, resulting in hemorrhage into the myocardium. The anterior coronary was apparently not involved, but the posterior coronary artery was in direct line with ulceration occurring at the root of the left auricular appendix. The sinus of Valsalva at this site was dilated and ruptured with hemorrhage seepage into the heart wall (interatrial septum and proximal part of left ventricle) and rather extensively into the wall of the left auricular appendix. Here and in the transverse sinus the bloody extravasation could be seen beneath the visceral pericardium. In one area on the superior posterior aspect of the left auricular appendix, rupture had occurred, and free blood had seeped into the pericardial cavity. A good sized clot plugged this aperture.

The root of the aorta was markedly dilated, and showed a diffuse, yellowish endarteritis.

1826 R Street, N.W.

A CASE OF DUODENAL DIVERTICULUM

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ST. LOUIS

The subject of duodenal diverticula is one which is of great interest not only to the gastro-enterologist but to the surgeon as well. This condition, while rare, has been recognized for many years, and more especially since the advent of the roentgen ray in the diagnosis of pathologic gastro-intestinal conditions.

No attempt is made, in reporting this case, to theorize on the causative factors of this condition or completely to review the literature on the subject, as this has been rather recently done by Andrews,[1] from an historical standpoint and also from more recent statistics. In his review, he says:

> Luismayer had 1,367 necropsies which yielded forty-five cases of diverticula, or 3 per cent. Buschi found 2 per cent. in all his researches, or a total of seventy-three cases, only fifty-four of which had clinical symptoms. Up to the time of this report (1911), no one author had had more than five cases. Later, 1913-1920, Case added reports from 6,847 examinations yielding eighty-five cases or 1.2 per cent. discovered by roentgen-ray examinations. I therefore reviewed all of our available roentgen-ray examinations of the last ten years and found that in about 2,200 stomach cases more than 300, or 14 per cent., showed deformations of the duodenal canal, of which twenty-six, or 1.2 per cent., resembled diverticula. These deformities range all the way from slight kinks or angulations of the tube caused by dragging or outside pressure to total obliteration. They include eleven cases of diverticula, large and small.

It will therefore be seen that true duodenal diverticula are comparatively rare and it is for that reason that this case is presented.

REPORT OF CASE

History.—C. S. G., aged 28, white, inducted into the Army, July 19, 1917, discharged Feb. 10, 1919, and admitted to U. S. Veterans' Hospital No. 35, Oct. 4, 1922, in December, 1917, while at Camp Cody, N. M., began to have some pain in the stomach, first noticed as an occasional pain in the epigastrium which came on about two hours after eating. This condition persisted until about eight months before admission to the hospital, at which time he thinks that he passed some black, tarry stools. Since that time, his condition had gradually grown worse, and he now had a steady gnawing pain in the epigastric region, which was worse about one and one half to two hours after eating, but was partially

1. Andrews, E. W.: Duodenal Diverticula, J. A. M. A. 77:1309-1311 (Oct. 22) 1921.

relieved by the ingestion of food and by taking alkalis. About one year previously, he began to have pain also in the appendical region. The bowels as a rule were constipated. The patient had never vomited or coughed up any blood. He had lost 40 pounds (18 kg.) in weight since 1918.

Physical Examination.—This was an ambulatory case. The general appearance of the patient was rather poor. He was thin and rather anemic. The weight was 115 pounds (about 52 kg.); the height, 68½ inches (170 cm.).

The heart, lungs and extremities were negative. The blood pressure was systolic, 102; diastolic, 62. The abdomen was flat, rather tending toward a scapoid type, and tympanitic throughout. In the epigastric region, about 3 inches above the umbilicus, was a definite point of tenderness, but there was no muscle spasm. Over McBurney's point, there was slight, well localized tenderness on moderate pressure. No masses were made out.

Treatment.—The patient was placed on a general medical and dietetic treatment while a further study of the case was being made.

Laboratory Findings.—October 6, a urine examination was negative save for an occasional pus cell. The Wassermann reaction was negative. Examination of the blood revealed: red cells, 4,990,000; white cells, 9,300; hemoglobin, 95 per cent.; small mononuclears, 32 per cent.; large mononuclears, 9 per cent.; neutrophils, 59 per cent. October 14. Examination of the gastric contents revealed: free hydrochloric acid, 39 per cent.; combined hydrochloric acid, 10 per cent.; total acidity, 54 per cent.

Roentgen-Ray Examinations. — Preliminary examination revealed no gross pathologic condition of kidneys or gallbladder. Fluoroscopic and roentgenographic examination showed stomach to be of normal size and position, fishhook in type, with normal peristalsis and motility. No defects of the gastric walls were noted. The duodenal cap was apparently filled out well, but the proximal portion of the second portion of the duodenum was dilated and retained the barium sulphate. At six hours, the stomach contained about 10 per cent. of the meal, and the head of the column was in the splenic flexure. At twenty-four hours, the head of the column was in the rectum and the tail was in the cecum, and at seventy-two hours, about one half of the meal had been discharged. The cecum was movable and not tender to pressure. The appendix was visualized at forty-eight hours. It appeared to be retrocecal in position, and was tender to pressure.

Diagnosis.—Dilatation of the second portion of the duodenum, possibly a diverticulum, with slight chronic appendicitis (as shown in the accompanying illustration) was diagnosed.

October 20, the case was referred from the gastro-intestinal service to the surgical service for consultation, and the following report was made: "The roentgen ray in this case is the most suggestive factor as regards the presence of a duodenal diverticulum. There is some tenderness over the epigastrium and also over McBurney's point, which, together with the history, is suggestive of a duodenal ulcer or a duodenal diverticulum and also a chronic appendix. Advise exploratory laparotomy for investigation of the diverticulum and also an appendectomy."

Operation.—November 1, under ether anesthesia, an oblique incision was made, commencing just below the xiphoid process, and extending downward and outward nearly to the level of the umbilicus. The anterior sheath of the rectus was incised and the rectus muscle was displaced outward. When the peritoneal cavity was opened, numerous fine adhesions between the duodenum and the liver and also in the pyloric region were noted. On the anterior surface of the first portion of the duodenum, about one-half inch from the pylorus, was a healed ulcer. The center of this ulcer consisted of dense white scar tissue, and about this area there was moderate thickening. This area was surrounded by minute blood vessels, which converged in a stellate manner toward the center of the scar. Just below this ulcer was a pouchlike protrusion from the lower anterior aspect of the first part of the duodenum. This pouch or diverticulum was about 2.5 cm. wide at the point of junction with the duodenum, and at the distal end was about 3.5 cm. wide. The length was approximately 5 cm. This diverticulum was surrounded by adhesions, which held it to the pylorus and to the distal portion of the stomach along the greater curvature. The edge of the omentum was adherent to the tip and outer lateral border of the diverticulum. The gallbladder was apparently normal. The appendix was felt, but could not be delivered without enlarging the incision. No ulcers were found on the stomach.

The adhesions about the pylorus were freed, and the diverticulum was freed and clamped near the base. About three fourths of the diverticulum was removed; the cut edges were inverted, and the serous coat was sutured with catgut so as to restore the continuity of the lower surface of the duodenum. The omentum was sutured over the line of sutures so as to prevent further adhesions. Owing to the presence of the ulcer and also on account of possible weakening of the duodenal wall, it was felt advisable to perform a posterior gastro-enterostomy, and a typical posterior gastro-enterostomy was therefore done. The appendix was not removed at this time owing to the difficulty of delivering it; and, furthermore, it was not believed wise to prolong the operation at this time. The wound was closed in layers.

Appearance of diverticulum, showing in the duodenum a Rehfuss tube, through which the diverticulum was gradually filled. This roentgenogram was furnished by the courtesy of Dr. T. A. Burcham of Des Moines, Iowa, who made the original diagnosis of a duodenal diverticulum before the patient was sent to the hospital.

Course.—The postoperative convalescence was uneventful. The patient was up and about in ten days. He felt much improved and the gastric symptoms had entirely disappeared. There was still some pain and tenderness about the appendical region, and he was advised to have the appendix removed in order to clear up all areas of disturbance in the gastro-intestinal tract.

November 28, a fluoroscopic examination was made to determine what changes had taken place after the operation. The report was as follows: "Fluoroscopic and roentgenographic examinations show stomach to be of normal size and position, cow-horn in type, with poor peristalsis and normal movability, with a gastro-enterostomy opening on the posterior surface, functioning well. The duodenal cap was not visualized. At six hours, the stomach was empty, the head of the column was in the descending colon and the tail in the terminal ileum. At twenty-four hours, the head of the column was in the rectum and the tail in the cecum, and at seventy-two hours most of the meal had been discharged. The cecum was restricted in movability and was tender to pressure. The appendix was visualized at forty-eight hours and thereafter throughout the examination. It was found to be large, long, segmented and still contained barium at ninety-six hours when the gastro-intestinal tract was empty. Conclusions: Gastro-enterostomy functioning well. Chronic appendicitis."

Second Operation.—November 29, an appendectomy was performed. The tissues to the right of and below the level of the umbilicus were infiltrated with procain. A right rectus incision was made; the anterior sheath of the rectus muscle was incised and rectus muscle retracted toward the median line, and peritoneal cavity was opened. A long, moderately congested appendix was found in a retrocecal position. The tip of the appendix was free, swollen and congested. The proximal three fourths of the appendix was covered by a dense membrane, which held the appendix firmly to the cecum. The appendix was freed from the cecum, the meso-appendix ligated, the appendix clamped, ligated and removed. The stump was cauterized and inverted. The wound was closed in layers. The appendix when sectioned was found to contain two fecaliths.

Histologic Examination of Diverticulum and Appendix.—Small intestine: In this specimen, there was an irregular and atypical hyperplasia of the intestinal glands, many of which were branched and cystic. This was a nonmalignant adenoma.

Appendix: This was found to be atrophied from chronic inflammation.

Convalescence.—The patient had an uneventful convalescence from the appendectomy, and was discharged from the hospital, December 16. All gastric symptoms had disappeared, and the patient stated that "he felt like a new man." He gained 9 pounds (4 kg.) subsequent to the gastro-enterostomy and his general condition was much improved as compared to his condition at the time of admission.

5800 Arsenal Street.

Clinical Notes, Suggestions, and New Instruments

AN EFFICIENT METHOD OF APPLYING RADIUM WITHIN THE MOUTH

E. WOOD RUGGLES, A.M., M.D., ROCHESTER, N. Y.

The treatment of lesions within the mouth with roentgen rays or radium has always been a procedure of the utmost difficulty. It is much more practicable with radium, but the holding of an applicator on one area for hours is intensely

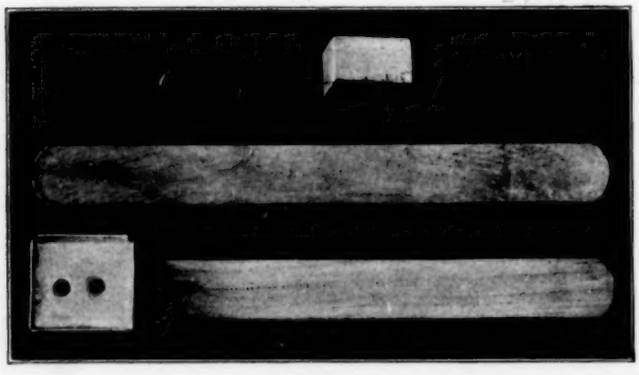

Fig. 1.—Separate parts of apparatus for applying radium within the mouth.

wearisome to the nurse, or to the patient if he does it himself. Besides this, it is practically impossible to hold the radium in exactly the same position for any length of time.

Five months ago a Polish girl, aged 6 years, was brought to me for the treatment of an extensive cavernous nevus of the internal surface of the right cheek and the lower lip. It encroached on the true skin beyond the vermilion border for an area of only about one-quarter by one-sixteenth inch (6 by 1.5 mm.) at the center of the lower lip. The cheek was nearly an inch in diameter at the most prominent part, and the lower lip hung down on the chin, causing a revolting appearance, like an exaggeration of the condition of the lower lip in a full-blooded African negro.

Treatment for this condition meant hours of exposure, and for a moment I was staggered, as the child was too young to hold the radium, and the parents too poor to pay for a nurse and not intelligent enough to do it themselves. It then occurred to me to attach the radium plaque to the end of an ordinary white pine tongue depressor, which is quite flexible, with rubber adhesive plaster, to locate it properly and then to place a similar depressor exactly opposite on the

Fig. 2.—Apparatus in place.

outside of the mouth. I then placed a rubber band, folded two or three times so as to give adequate pressure, at the center of the depressors, and inserted a block of wood about one-half inch thick between the outer ends.

The pressure produces no pain or even inconvenience except that of leaving the mouth open, even when left in position, as in this case, for five hours (with 0.2 mm. of brass protection). The plaque remains indefinitely in exactly the same location, as can be demonstrated by moving the outer ends up or down. On being released, they return to their original position. In treating the lower lip a cord was attached to the outer ends and looped over the back of the head so as to avoid downward tension on the lip.

The results in this case, while slow, have been very gratifying. The thickness of the cheek has been considerably reduced, and the child is able almost to close the lower lip to its normal position. Some discoloration has appeared near the angle of the mouth, evidently an extension of the nevus toward the skin, and an indication that, without treatment, the skin over the whole nevus would be involved. This area has not yet been treated, as the other parts were much thicker.

In the same manner I have also treated with radium a precancerous scaly lesion of the vermilion border of the lower lip, which had existed over a year, and the result was perfect. Lesions of the projecting part of the tongue can be treated similarly by increasing the thickness of the block which separates the outer extremities. The same method can be employed with lesions of the skin on the cheeks, lips and ears, especially when greater pressure is desired than can be obtained by adhesive plaster.

Of course the principal condition in which this apparatus would be useful is leukoplakia, but there are several other diseases of the oral cavity in which treatment with radium is indicated; for example, lupus vulgaris and erythematosus, epithelioma, carcinoma, lichen planus and, rarely, sarcoma and acanthosis nigricans.

I have endeavored to have the instrument constructed of aluminum, there being an alloy which has considerable

flexibility; but I have found that, to secure sufficient springiness, the pieces would be too heavy for comfort and might sag downward. The Standard Chemical Company of Pittsburgh has constructed, at my suggestion, an applicator which, while utilizing the tensile strength of wood, renders it much easier to retain the radium in position. An aluminum box which fits the 2 c.c. radium plaques, and is slightly shallower, is attached to the end of one of the tongue depressors, as shown in Figure 1. At one corner a slot is left, extending to the bottom of the box, so that a small instrument, such as a nail, can be used to dislodge the plaque if it is not easily removable.

I fully believe that this applicator will find wide use if once tested, as it renders the treatment of intra-oral lesions a procedure of the greatest ease and simplicity.

348 University Avenue.

A CASE OF PHARYNGEAL DIPHTHERIA PROBABLY DUE TO AUTO-INFECTION FROM A DIPHTHERIC LESION OF THE THUMB *

A. H. BALDWIN, M.B.; FRANK MCCALLUM, M.B., AND J. A. DOULL, M.D., BALTIMORE

A physician, aged 30, a graduate student, gave a positive reaction to the Schick test, Oct. 10, 1922. There was a very slight pseudoreaction. There was no history of previous diphtheria.

October 25, he carried out a virulence test with a culture from a known clinical case of diphtheria. At this date, he had not himself been in contact with a known clinical case for some time; nor had he been working with any other diphtheria cultures. While inoculating the guinea-pig, he pricked the skin on the dorsum of the terminal phalanx of the left thumb with the needle of a syringe containing the suspension from a twenty-four hour Loeffler slant. The suspension in the syringe was from a culture from the above mentioned case, and caused typical diphtheric lesions in the guinea-pig. October 29, the patient visited the laboratory and examined the inoculated animal, but after this date he was not exposed to any known source of infection.

October 27, a hard papule about the size of a millet seed developed at the site of the needle prick, and by the 29th this had developed into a necrotic ulcer, with hyperemia, edema and partial anesthesia over the area. Definite lymphangitis was present, a line one-quarter inch in width running along the dorsum of the thumb, up the flexor surface of the forearm to the antecubital fossa and along the inner side of the arm to a distance of about 6 inches above the elbow. No axillary tenderness was present, nor were the axillary glands palpable. The area on the thumb was freely incised, blood and serum, but no pus, being obtained. There were no constitutional symptoms, but the lesion did not heal, and, November 1, it showed a necrosis covering nearly the whole of the skin area on the dorsum of the terminal and encroaching on the outer side of the first phalanx.

November 2, a section of skin about a third of an inch square sloughed. During the night, the patient removed the bandage and the dressing from the thumb; and, he stated, he was under the impression that he had his thumb in his mouth during the night.

November 5, about midday, the patient complained of a sore throat, and on examination a patch of membrane was seen on the right tonsil. He had a temperature of 102.6 F. At 6 o'clock in the evening, when antitoxin was given, the patch was much increased in size. Cultures from his throat were positive, and the diagnosis of pharyngeal diphtheria was confirmed clinically at Sydenham Hospital, to which the patient was removed next day.

November 8, the membrane had disappeared from the throat and the thumb lesion had practically healed. Redness persists still (four months later) over the area of the wound. As the nature of the thumb lesion was not recognized until November 6, no cultures were secured from the wound.

COMMENT

The case presents these interesting features: (1) a laboratory wound infection in a person known to have given a Schick positive reaction; (2) a probable transference of the bacilli to the mouth during sleep; (3) a rapid disappearance of throat and wound lesions on the administration of antitoxin.

Since recovery, the patient has repeatedly given negative reactions to the Schick test, and his reaction was still negative, March 1. He had received altogether in November 12,000 units of antitoxin. An interesting feature is the marked pseudoreaction which has been present on each of these later tests.

An interesting case in the literature which somewhat resembles this one is that cited by Mallory[1] of a student who cut his finger while removing the organs of the neck during necropsy on a child who died of diphtheria. He sucked the wound in the attempt to prevent infection, and developed diphtheria at the end of twenty-four hours.

* From the Department of Epidemiology, School of Hygiene and Public Health, Johns Hopkins University.

CATHARSIS IN THE TREATMENT OF "COLDS"

HUGH MACDONALD, S.B., M.D., EVANSTON, ILL.

The almost universal use by the profession and the laity of laxatives and cathartics in the treatment of acute upper respiratory tract infections (so-called "colds") suggested an investigation to determine how large a rôle this method of therapy played in shortening the duration of these conditions.

A mild epidemic of acute respiratory infections—rhinitis, sinusitis, pharyngitis, tonsillitis, laryngitis, tracheitis and bronchitis—occurring during January and February, 1923, furnished an opportunity to investigate this problem among the employees of a large industrial organization situated in Chicago.

In most of the cases under observation there was a more or less generalized infection of the whole upper respiratory tract before the termination of the illness. The usual complaints were general malaise, "cold" in the nose, chilliness, headache, sore throat and cough. Fever was present in most cases, but in a few this one symptom alone remained absent. A definite leukocytosis was present in more than 95 per cent. of the cases.

About a half of the employees, reporting to the medical department for home passes because of illness, were instructed that, if their bowels were moving regularly (which was generally the case), they should refrain from the use of cathartics.

It is a routine of this industrial organization that the medical department examine, on their return to work, all employees who have been home for illness. The data in this report were collected at this time.

Information on fifty-one practically consecutive cases occurring during the height of the epidemic was obtained. Thirty-seven persons had used cathartics, mainly at the onset of the illness. The average duration of unemployment of this group was nine days. Fourteen had used no cathartics. Their average duration of unemployment was 7.71 days—14.3 per cent. less than the former group.

COMMENT AND CONCLUSIONS

Alvarez and others have demonstrated the decreased amount of gas pains and increased comfort experienced by surgical patients in whom the preoperative and postoperative purgatives had been omitted.

Cases are frequently observed in which the frequency of bowel movements and prostration from large doses of cathartics in the treatment of "colds" undoubtedly prolongs the period of incapacity. While it is not claimed that the omission of catharsis will hasten the subsidence of definite symptoms, it is suggested that the omission of cathartics in the absence of constipation in the treatment of "colds" does not apparently delay recovery.

1604 Chicago Avenue.

1. Mallory: Pathology of Diphtheria, in Nuttall and Graham-Smith: Bacteriology of Diphtheria, Cambridge, 1913, p. 120.

Special Article

PERIODIC MEDICAL EXAMINATIONS OF APPARENTLY HEALTHY PERSONS

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Chairman of Committee of Council on Health and Public Instruction
NEW YORK

From both medical and lay sources requests have come to the American Medical Association to prepare a description of the objects to be attained, the methods to be employed and results which may be expected from inquiry into and observation of the tissues and physiologic functions of persons, young and old, who are not at the time aware of any disease or defect which is causing them to seek medical relief.

By resolution of the House of Delegates in June, 1922, the Council on Health and Public Instruction was authorized to prepare forms suitable for use by practitioners of medicine in carrying out the purposes of the periodic health examination, and the statement here submitted is offered in fulfilment of this obligation.[1]

The preparation of forms for record of the applicant's history and the medical examination, without explanatory text as to the intent and meaning of the questions and the methods suggested for carrying out the tests of physical condition, seemed insufficient to comply with the spirit of the instructions of the House of Delegates. The forms will, in any event, be printed separately, and are intended for use on 5 by 8 inch cards printed on both sides, or on the single face of a letter sheet measuring 8 by 10 inches.

Medical experience of the benefits of periodic examinations of presumably healthy persons is sufficiently widespread to make any detailed reference superfluous. It is taken for granted that physicians are aware of the material reduction in infant deaths accomplished by the supervision under medical direction of the feeding and hygiene of healthy babies from birth to the age of 2 years.

During the years prior to entry into school life, and for many of the children during their school years, some form of medical supervision during apparent health has seemed justified by the number of important defects discovered which need correction, and by the improvement in growth and functions of body and mind when such handicaps are removed.

The annual physical examination of commissioned officers of the army is a type of medical service for health protection which is now increasingly called for by individuals and groups of adults, whether at their own initiative and expense or as a part of employment or insurance contracts as a sound financial investment.

The periodic medical examination of apparently healthy persons is designed to detect the early evidences of disorder before discomfort, inconvenience, interference with work, or anxiety has driven them to seek medical advice for the treatment of established disease. The methods employed are those used in the diagnosis of disease. The attitude of mind, the point of view of physician and patient is the chief distinguishing feature which makes the health examination sufficiently novel and important to both parties concerned to justify the following suggestions for the methods to be employed, and forms of record approved and found useful.

The use of these forms, or their equivalent, is to be encouraged, in part because, by recording methodically observations and opinions as to the physical and functional fitness of persons passing through their hands, physicians will acquire an increasing skill and keenness in detecting early evidences of preventable and curable conditions, and also because, by the general employment of a thorough and complete method of inquiry by physicians, the laity will learn to appreciate the importance to their own health of good medical examinations, and to expect attention to the details of personal hygiene on which continued health so often depends.

In the past, when a person has consulted a physician he usually has had symptoms of disease of which he has been aware, and concerning the importance of which he seeks opinion and relief through treatment, or he fears he has a disease, although not suffering from anything more tangible than apprehension of disability, or he has sought protection against some preventable infection, such as smallpox, typhoid and diphtheria. Nowadays we find people coming to physicians in increasing numbers to have an estimate of their state of health, and guidance in the means of maintaining or improving it, or for specific advice to avoid the disabilities of advancing years.

For whichever reason the physician is consulted, he must obtain such pertinent facts of the patient's personal and family experience as may bear on the specific diseased condition now existing, or which seem to require modification of his manner of life in the interest of his health.

HISTORY OF APPLICANT

However varied may be the questioning necessarily directed to elicit pertinent facts when an explanation or diagnosis of a particular diseased condition is sought, there is a more uniform series of facts which it is desirable to learn in dealing with those who are presumably well. The method of medical examination, however, should be in all essentials the same, whether a diagnosis of disease or the discovery of good health is sought. If anything, the physician must be more keenly alert, and his examination must be more comprehensive to detect early unsuspected evidences of faulty function or structure in the latter than in the former case. To quote from the Army Medical Bulletin[2] which deals in detail with the annual medical examination of officers:

> While the printed form upon which the pertinent facts are reported constitutes a guide to the logical steps by which the examinations should be conducted, it must never be considered as a measure of the scope of the investigation into the health of the individual.

Even though inquiry as to past illnesses of the patient and his ancestors does not directly contribute to an exact knowledge of his present bodily function and structure, the past personal and family history must be obtained because of the light they often throw on the patient's health.

It is important to know how he feels, how he sleeps, what he eats, how effectively he does his work and the nature of it, his home environment, his modes of exer-

1. At the November, 1922, meeting of the state secretaries in Chicago, a committee was appointed by the presiding officer to act in cooperation with the committee of the Council on Health and Public Instruction in preparing the forms. A preliminary draft was submitted in January, 1923, to the committee of the state secretaries (Drs. Rock Sleyster, Milwaukee; Edgar A. Hines, Seneca, S. C.; Tom B. Throckmorton, Des Moines, Iowa; Walter F. Donaldson, Pittsburgh, and Olin West, Chicago). After correspondence with leading clinicians in their respective states, the committee met with the Council on Health and Public Instruction, March 6, 1923, in Chicago, and numerous changes in the text were decided on. The consensus of the two committees is represented in the forms and text herewith submitted.

2. Army M. Bull. 7, Nov. 15, 1922, pp. 210-221.

cise and recreation, how he gets on with his family and associates, and whether he has any worries.

Health examinations should be arranged for on an appointment basis and not merely as incidental to service for the sick at crowded office hours. An appointment is in every way desirable for both patient and physician, because of the necessity of spending not less than from three quarters of an hour to an hour with each patient. The physician's time can be materially saved if the patient is asked to fill out beforehand and bring with him a sheet or card giving the information called for on Form A, unless the facts are already known to the physician. With suitable omissions and additions, this can be made appropriate for men and women at work in shops, offices or factories, or for women at home whose chief, if not only, occupation and interest is the household and the children. Special forms, such as those published by the Women's Foundation for Health for adult women, and those approved by the American Child Health Association to meet the particular needs of infants and children, may be found more convenient for these classes of patients. The physician will, in any event, wish to verify and develop by further questioning the answers submitted.

While it is believed that a reasonably thorough understanding of the patient's manner of life can be obtained only by exact information on all the items included in the History Form A, owing to the great variations which will be encountered in the social, economic and intelligence levels of the persons applying for these examinations, certain questions believed to be indispensable for even an elementary knowledge of the patient have been emphasized by printing these in heavy faced type. The physician will in most instances find it necessary to verify the answers submitted by the applicant, through additional questioning appropriate to each case.

DETAILS OF PERSONAL HISTORY

With few exceptions, the reasons for including the questions listed in Form A are obvious, and the phrasing of them is sufficient to express the intent of the physician. No form of questions will suit every physician or mean the same thing to all patients. The items under 1, 2 and 3 are desirable for purposes of identification, except the question as to religion, which is put here for convenience of spacing, and also because many factors of human relationship, mental and spiritual, diet and social habits are determined, particularly among our foreign born, by their church affiliations, and many of the resources needed in helping those who suffer more through their emotions than from organic disease can be brought to bear only by recognizing and using the established influences of religious beliefs and convictions.

If 4 and 5 are answered completely, 6, in which are suggested some of the more important factors which determine physical and mental deterioration, is perhaps unnecessary. The information to be obtained from 7 and 8, while not commonly sought by physicians in taking personal histories of the sick, has been found altogether necessary, or at least desirable, in getting a picture of the economic and social environment of the

Form A **HISTORY FORM**

1. **Name** **Country of Birth**
2. **Address** **White or Colored?**
3. **Age** **Religion** **Single, married, widowed, divorced?**
4. **What is your present occupation?**
5. How often have you changed your work? Why?
6. **What are the conditions of your work?**
   Regular, Satisfactory, Monotonous, Dangerous, Fatiguing, Indoors or out,
   Light, Dark, Dusty, Smelly, Noisy, Crowded, Seated, Standing,
   Walking, Hours per day? Days per week?
7. Do you support yourself, or others, by your work?
8. **What are your home conditions?**
   In a family, Alone, Room and bed to yourself, Quiet, Time to yourself,
   Congenial Depressing, Irritating?
9. **What are your sleeping conditions?**
   Hours in bed, Window open, Restful, Disturbed by children or others?
10. **How often do you eat?**
    Regularly, Where, Between meals, Time at meals?
11. **Are you a moderate or hearty eater?** Taking one or more helpings at a meal of:
    Meat (including fish and eggs) Sweets or sugar
    Baked beans Fruit
    Green vegetables (spinach, cabbage, etc.) Salads
    Potatoes (or rice, macaroni or cereal) Bread
    Pie, cake or pastry Butter
12. **How much do you drink daily of:**
    Water Tea Soft Drinks
    Milk Coffee Alcoholic Drinks
13. How frequently do you use candy? How much tobacco?
14. **Do you have a movement of the bowels daily without the use of drugs?**
15. Do you take any regular exercise in addition to your work?
    Competitive, Strenuous, Under direction, Indoors or out?
16. To what extent do you share in social, church, political, club or trade associations?
17. What are your pleasures or recreation?
18. **Are you subject to worries or moods, or periods of gloom and cheerfulness?**
19. **Have you ever been ill with any of the following, and at what ages?**
    Tuberculosis Scarlet Fever Frequent Colds
    Malaria Diphtheria Convulsive Seizures
    Rheumatism Typhoid Fever Nervous Breakdown
    Syphilis or Gonorrhea Tonsillitis (Sore Throat) Migraine or Neuralgia
20. **Have you been protected against smallpox, typhoid, diphtheria or other diseases by vaccination, and when?**
21. Have you had any accidents, broken bones or surgical operations?
22. How often do you consult your dentist? When last?
23. **Are your parents, brothers and sisters living?**
    If not what were the causes of death and at what ages?
24. Do you remember any diseases in your family which may have affected your own health?
25. **Do you consider yourself in good health?** If not, what is your complaint?
    If a woman, answer these:
26. **Are your monthly periods regular?** Prolonged? Excessive?
27. **Have they interfered with your occupation,** by pain? or headache?
28. **Have pregnancies and confinements been free from accident?**

individual wage earner, who constitutes so large a part of urban populations. Functional nervous disorders are not uncommonly explained chiefly by the anxiety and distress which result from narrow resources of money and friends.

Question 9 is fairly complete as it stands.

Questions 10, 11, 12 and 13 are obviously susceptible of considerable elaboration; but, aside from the reasonably exact information they may elicit for the physician's use, they will suggest to the mind of many patients the necessity of some thought and attention to the elements and proportions of their food and drink.

The prevalence and damaging effect on health of persistent constipation and habitual use of medication for its relief, and the ease with which most cases can be relieved by attention to regular habits of bowel evacuation, suitable use of fluids, appropriate diet and exercise, are sufficient reasons for 14 and 15.

Questions 16, 17 and 18 are, like 7 and 8, included with a view to obtaining some insight into the social, mental and emotional capacities, resources and liabilities of the applicant for a health examination. A correct estimate of a person's health cannot be arrived at by considering alone the structures and functions of the body without regard to personality and the psychologic factors.

The list under 19 may be extended or limited according to the age and place of residence of the applicant, etc.

Questions 20 to 28 require no comment.

THE MEDICAL HEALTH EXAMINATION

When the appointment is kept, preferably at the physician's office, with the completed questionnaire, a medical examination should be made to include at least observations as listed on Form B, given below. When the history or physical findings indicate some particular liability to defect, as for instance low sugar tolerance, high blood pressure, latent syphilitic infection, asthma or hay-fever, the appropriate supplementary resources of clinical and laboratory procedures will, of course, be called for. Or if, when the vision or the reflexes are tested, errors are detected which require more exact methods, reference will in some instances be made to the specialist.

The equipment and facilities for the examination are those of the practicing physician's office, and such instruments as are needed are commonly carried in a suitably equipped kit bag, with the exception of the weight scales.

Form B — **PHYSICAL EXAMINATION RECORD**

Name — Case No.

1. Height — Weight, Usual — Present (Theoretical normal for age and height) — Temp. — Pulse S / L — Bl. Pres. S { Sys. / Dias. } L { Sys. / Dias.

Hearing R / L — Vision R / L — Corrected R / L

Urine: appearance — Sp. gr. — Sugar

Feces: appearance — parasites

2. **Standing**	
Posture	
Muscle tests	
Nutrition	
Skin	
Superficial glands	
Chest	
Hands	
Arms	
Male genitalia	
Hernia	
Legs	
Romberg	
3. **Sitting**	
Hair	
Eye reflexes	
Nose	
Teeth	
Gums	
Tongue	
Tonsils	
Pharynx	
Ears	
Heart	
Lungs	
4. **Lying**	
Abdomen	
Reflexes	
Sensation	
Liver	
Spleen	
Kidneys	
Female genitalia	
Rectum (hemorrhoids)	

5. Summary: Defects of function and structure and errors of habit.

6. Advice given to the patient:

The examining room must be warm, preferably between 70 and 74 F., and a light washable woolen cape or large square of flannel shaped to the shoulders should be provided for protection of the bared surfaces of the body as the examiner passes from one area to another. An examining table or other flat, firm surface is needed for the recumbent examination. The instruments needed are:

- Tape measure
- Tongue depressors
- Spot light
- Stethoscope
- Blood pressure instrument
- Otoscope
- Laryngeal mirror
- Tallqvist's hemoglobin scale, or Dare hemoglobinometer
- Nose speculum
- Vision chart (Snellen)
- Rubber gloves or finger cots
- Vaginal speculum
- Weight scales
- Simple urine testing outfit for appearance, specific gravity, albumin by acetic acid and heat test and sugar by Benedict test, or other standard test
- Thermometer

Other equipment that permits added completeness and convenience of the examination includes:

Centrifuge	Wassermann tubes
Microscope	Reflex hammer
Ophthalmoscope	Dynamometer
Flesh pencil	Tuning fork

THE PHYSICAL EXAMINATION

A certain group of observations (Section 1 of Form B) can often be made by a lay assistant, office clerk or nurse with accuracy, and these are therefore put in a group by themselves. Similarly, as the examination can best be carried out in an orderly manner, those other observations are grouped which are usually made in the standing, seated and recumbent positions respectively (Sections 2, 3 and 4 of Form B).

It will be noted that the blank form provides not for a series of detailed notes for all observations made on the various parts and functions of the body; but, recognizing that we are dealing here not with a diagnosis of established disease but with an estimate of health or certain variations from an accepted normal range of healthy conditions, only the headings are listed under which objective signs indicating abnormal conditions may well be described.

In other words, these record forms are not intended for anthropologic research or for statistical studies of physical signs, although many valuable contributions in these fields might well result from a large number of careful examinations of people in health. The form proposed is intended to offer suitable space in which to record the items of history and those objective findings on which a physician would be able to base his opinion as to the probable soundness of a person's health, or his advice in matters needing change in habits or conduct of life.

Further study and additional examinations will usually be required to determine the precise location, extent and character of various disease processes or defects which may be revealed or suspected as the result of the health examination.

The summary (Section 5) is for the convenience of future reference to the record, and to commit the physician to an expression of opinion as result of his study of the history and examination of the patient.

The advice given (Section 6) should consist of written directions to the patient, for the correction or limitation of defects or errors discovered. Simple, precise, nontechnical wording should be used, and only such measures should be proposed as fall within the possibilities of the patient to carry out.

Disease states will, of course, be treated by the examining physician, or the patient may be referred elsewhere for appropriate care.

It will commonly be found that social, recreational and other local resources with which the physician should be familiar can be used with advantage, as gymnasiums, libraries, clubs, and community groups of various kinds, for mental and physical development in the interest of health.

DETAILS OF PHYSICAL EXAMINATION

For the convenience of those physicians who have not been accustomed to follow a particular and comprehensive routine of physical examination, the following brief elaboration of each of the items listed in Form B is offered.

Height: To be taken barefoot, and where there is asymmetry, in the position with the pelvis at right angles to the vertical axis of the body.

Weight: Preferably stripped, or with the examining cape only. By the usual weight is meant the weight during apparent health during the past year and after attaining maturity. Excellent standard height and weight charts for adults are published by the National Tuberculosis Association, and for children by the American Child Health Association. A standard height and weight chart for men and women (from 15 to 84 years) wearing ordinary indoor clothing was prepared by the Medico-Actuarial Investigation of forty-two life insurance companies of the United States and Canada in 1912, and is widely used.

Temperature: The thermometer under the tongue for three minutes. In children, a rectal temperature is preferable.

Pulse: To be taken standing and in the recumbent position and recorded in each position when for two successive quarter minutes the rate remains the same. In addition to the pulse rate, its quality, rhythm, regularity, and the character of the arterial wall are to be noted. (It is the practice among life insurance examiners to take the pulse and the blood pressure in the sitting and standing positions only, and at intervals of thirty and forty-five seconds after exercising.)

Blood Pressure: The auscultatory method is advised and the systolic and diastolic pressures should be read in both standing and recumbent positions, when the pulse rate has shown the same rate for two successive quarter minutes. (Life insurance companies have published tables of blood pressures and the usual range within normal limits according to age and other factors.)

Hearing: The room must be quiet and the patient so placed that there is no greater resonance or reverberation from walls, etc., on one side than on the other. Any watch will serve to test acuteness of hearing if its audibility is known for people with normal hearing. The patient should keep eyes shut while the watch is held at various distances from the head on each side, and one ear should be closed, while the opposite ear is tested, by pressing the tragus firmly against the meatus. The test of hearing by the whispered and spoken voice, the patient being placed with his back to the physician, is in some ways better than the watch test, and is particularly valuable when malingering or deception by the patient is suspected.

Vision: Refractive errors are to be tested for near and distant vision by the Snellen test card or other standard types or forms. If corrective lenses are in use by the patient, the tests should be repeated with them on.

Urine: The appearance, as color, deposit, blood, pus or other sediment, the specific gravity at room temperature, the presence of albumin by the acetic acid and heat test and the presence of sugar by the Benedict test are to be noted. The Heller test for albumin and the Haynes test for sugar are widely used in life insurance practice. In persons over 50 years of age, and when traces or more of albumin are found, a microscopic examination of the urine is important.

Feces: In many instances in adults in whom dietary defects are suspected, and commonly in infants, the appearance of the feces will give valuable information. In persons living in or coming from areas of hookworm prevalence or widespread distribution of amebic dysentery and other tropical and subtropical intestinal manifestations, a microscopic examination of the fresh stool is desirable.

Posture: Mobility of chest, of spine, of all joints, relation of shoulders to pelvis, knees to ankles, pes planus and cavus, lordosis and scoliosis are to be looked for, and protuberant or flat abdomen to be noted. Musculature for development and quality, and tests by grip and resistance to flexion and extension of arms and legs.

Nutrition: Color and quality of skin and mucous membranes. Amount and distribution of subcutaneous fat. Relation of height, weight and age as compared with National Tuberculosis Association chart or other standard.

Skin: Eruptions, scars, areas of infection, urticaria, precancerous lesions of excessive cell proliferation, pigmented moles, calluses, corns.

Superficial Glands: Cervical, axillary, inguinal, epitrochlear, thyroid to be noted particularly for unusual size, tenderness or evidences of previous inflammation or enlargement.

Chest: Asymmetry, prominences or depressions indicating present or past disease of lungs or heart, or of errors of bony and muscular development, rickets.

Hands: Atrophy, tremors, grip, occupational or accidental injuries.

Male Genitals: Present lesions or past scars on glans, discharge or drop on stripping the urethra. Hydrocele or varicocele.

Hernia: In digital examination for undue patency of inguinal canals the subject should stand with feet well apart, feet toeing in, and then rise on balls of his feet with arms above his head and cough.

Legs: Varicosities.

Romberg Test: The subject should stand with heels and toes touching, away from contact with any object or person and with eyes closed. Any swaying and the direction of it should be noted.

Hair: Amount, distribution, dryness, lack of luster, irregular lengths indicating poor nutrition. Infections or infestations of scalp.

Eyes: Evidences of strain or irritation, congestion or inflammation of conjunctivae or closure of lacrimal duct. Scars on cornea. Discharge as in trachoma. Pupillary reactions to light and in accommodation. Preferably supplemented by retinal inspection with ophthalmoscope.

Nose: Patency of nares, evidence of infection, chronic discharge, character and location of obsfruction. Direct inspection with nasal speculum.

Teeth and Gums: Occlusion. Failure or irregularity of eruption of teeth. Broken or carious surfaces, tenderness, evidence of present or past root abscesses. Inspection of surfaces under removable appliances. Sensitiveness to cold and heat. Tartar deposit. Bleeding, purulent discharge, erosion or retraction of gum margins. Inspection to be carried out with use of tongue depressor and spot light. A narrow arch and high palate are worth noting, particularly in mouth breathers among children.

Tongue: Search on tongue and cheeks for roughnesses, leukoplakia, or possible precancerous lesions or ulcerations. Test tongue for tremors and symmetry when extended. Test speech in repeating trial phrases such as "Third Artillery Brigade" or others to determine nervous or muscular control of throat, tongue and lips.

Tonsils and Pharynx: Careful search by direct inspection and, if necessary, with use of laryngeal mirror for foci of infection, or evidence of hypertrophy of lymphatic tissue in throat and retronasal space. Note presence and character of secretions.

Ears: After removing wax or other dirt, inspect ear drum with otoscope, especially noting scars, sclerosis, perforations or discharge, and tenderness in soft or bony parts in vicinity. If hearing has been found defective, test bone conduction for sounds.

Heart: All observations made with patient at rest should be repeated immediately after brief exercise, of a kind and amount to cause at least momentary increase in respiration. The location and character of apex beat, the size of heart, the force and character of systolic impulse, the correlation between apex impulse and carotid and radial pulses, the effect of exercise on heart action are all of more value in estimating the presence, degree and importance of organic heart defect than is the presence of murmurs. The source, location in the cardiac cycle and significance of abnormal sounds, murmurs and thrills should always be determined if possible. Inspection, palpation, percussion and auscultation should be used methodically before and after exertion, and the effect of exertion on the rate and extent of respiratory movement and on the color of the skin and lips, and the subjective symptoms of the patient should be carefully noted in order to estimate the work capacity or reserve of the heart muscle.

Lungs: In addition to the systematic observation of the chest, back and front, during quiet breathing, and in full inspiration and expiration, by inspection, palpation, percussion and auscultation, the subject should be required to breathe out fully, then cough lightly and immediately breathe in, with the stethoscope continuously applied to different areas of the chest in turn during such a maneuver, especially above the third rib in front and the spine of the scapula behind. In this way the minuter, moist sounds indicating an early or incompletely arrested tuberculous process are most likely to be detected. Often only by considering the physical findings, together with the history and perhaps repeated observation of the patient, can the significance of abnormal sounds in the chest be determined or the diagnosis of a tuberculous process be established or eliminated.

Abdomen: The patient's mouth should be kept open, the breathing be quiet and easy, the knees partially flexed, the hands crossed on the chest, and the head on a low pillow during abdominal examination. Search for tenderness, muscular resistance, masses, abnormal size, location or character of palpable viscera. Variations from usual signs should be elicited in the various regions of the abdominal cavity by inspection, palpation, percussion and auscultation. The excursion of the diaphragm should be noted on each side.

Reflexes and Sensation: The abdominal and cremasteric reflexes may well be elicited at this time, and the patellar reflex or knee jerk and ankle clonus tested while the patient is recumbent. The Babinski and other special toe signs should be elicited at this time. Hyperesthesia and hypesthesia to touch and temperature should be tested on the main areas of the trunk and extremities while the patient is recumbent.

Liver: The upper and lower levels of liver dulness in inspiration and expiration, the location and character of the lower margin, especially irregularities or unevennesses of surface or edge will be established by percussion and palpation.

Spleen: The size and character, i. e., hard or soft, will be sought by percussion and palpation.

Kidneys: In the dorsal, lateral or prone, or knee-elbow position with the abdominal wall relaxed, the outline and fixation or mobility of the kidneys can be made out by palpation except in those with very obese or heavy muscular parietes.

Female Genitals: In unmarried women no internal or vaginal examination need be made unless there is a history of symptoms such as irregular or excessive flow, abnormal discharge, or uterine discomfort to call for visual and manual examination of the vaginal tract, the cervix, body, and palpation for ovaries. Abdominal palpation alone or with rectal digital examination should suffice. In married women or those who have borne children or when there are warning symptoms of disease, inspection with the speculum and bimanual examination should be employed.

Rectum: The finger cot or rubber glove should always be used. A digital examination by rectum should be made in the case of men, to palpate the prostate and, if necessary, to carry out digital massage. In women under 45 when there is no history of menstrual disturbance, pain or irregular bleeding or persistent constipation or pain or bleeding at stool, the rectal examination may be omitted. When the examination is made in unmarried women by the aid of coincident abdominal palpation, a fairly complete palpation of the pelvic organs of generation can be made. In both men and women the digital rectal examination offers an excellent opportunity to test the character of rectal and perineal tissues and to detect the presence of inflamed hemorrhoids, fissures, tumor formation, obstruction or cicatrices.

In a procedure such as that required to obtain an accurate and comprehensive understanding of the condition of an apparently healthy person, the slavish or routine following of a standard procedure must lead to poor results. The method described above is sufficient to meet all the usual indications for a complete medical examination, but each physician will doubtless change the order and content here submitted, as may be called for in the particular patient before him. Physicians with long experience and mature judgment use a standard form as a basis from which to vary at their discretion. Those who have not developed a satisfactory method and routine will find the one here given a convenience.

It is the practice in some places where large numbers of medical examinations of healthy young adults are made, as at state universities, to approach the patient from the standpoint of his various bodily systems and their relationships, such as mental, nutrition and special

senses, instead of by the regional method proposed above. It is usually found that the individual practitioner will save himself time and get a better all around picture of the patient by following the stages of the examination indicated in the main groups 1, 2, 3 and 4, as given in Form B.

HYGIENIC ADVICE

Physicians whose training and attention have been devoted almost exclusively to the treatment of serious or long established disease processes which have interfered with the patient's comfort or earning capacity will not find themselves at once prepared to guide applicants for health service in the practices of personal hygiene.

A review of the physiology of digestion and nutrition, and the effect and uses of physical exercise and development on the muscular, nervous, circulatory and respiratory systems, will be the most helpful preparation of the physician for carrying out the object of health examinations, which is in its simplest terms the early correction of errors of personal hygiene which have developed defects of bodily function, or are likely to do so if disregarded.

Hygienic advice alone, in the presence of the many well marked disease conditions which are commonly discovered in any group of people who believe themselves wholly sound and healthy, will, of course, be of no avail without the application of appropriate medical and surgical treatment for relief and cure.

Of the many disorders found among people apparently in good health, there are five so common that advice is frequently called for to correct them. These are sleeplessness, constipation, overweight, underweight, and arterial hypertension. The physician should be prepared to give specific instruction as to hygiene, manner of life, diet, etc., according to his own opinion in helping patients, who think themselves quite well, to correct or counteract the harmful effects of these common errors which are likely to cause serious disturbance of health with advancing years.

During the past year 958 persons received health examinations as described above, at the three stations in New York City established by the United Hospital Fund and under the professional direction of a committee of physicians all members of the New York Academy of Medicine. These people of various races, both sexes, all ages and chiefly from among the wage earners' families and others of limited or insufficient means, either did not consider themselves in ill health at the time of the examination or were obtaining no medical care for conditions of which they were aware but for which they believed medical treatment unnecessary.

TABLE 1.—*Nature of Hygienic Advice*

Hygienic Advice	Per Cent.
For general dietary	22.8
For correction of obesity	4.7
For malnutrition	4.1
For constipation	11.3
For exercise and outdoor recreation	17.4
For adequate use of water in the dietary	9.3
For oral hygiene	9.3
For bathing	10.2
For sleep and rest	6.4
For enuresis, prenatal care, clothing, sex hygiene, etc.	4.5
	100.0

Of the 958 examined, twenty-four, or 2.5 per cent., were found to be in good health; 697, or 72.7 per cent., needed definite medical treatment (this number included 214 who needed, in addition, advice as to habits and personal hygiene), and 237, or 24.7 per cent., needed only hygienic advice to correct or arrest existing errors of bodily function or defects of structure.

The hygienic advice given to 451 examinees, 214 of whom also required definite medical treatment, fell under the headings in Table 1.

TABLE 2.—*Chief Diseases and Defects Needing Treatment*

Diseases and Defects	Percentage of Entire Group (958) Examined
Dental defects	56
Defective vision	35
Diseased tonsils and adenoids	30
Circulatory disorders	28
(Which included 77 instances of functional cardiac disorders and 37 of organic heart disease)	
Diseases of women (lacerations, displacements and menstrual disturbances)	39*
Faulty posture (serious enough to cause symptoms)	10
Malnutrition (children and adults)	16
Constipation	12
Obesity, defective hearing, cervical adenitis and flat foot were recorded in about 10 per cent. of the cases.	
Twenty-two cases of syphilis and twenty-eight of suspected tuberculosis were found.	

* Percentage of 433 women examined.

The chief diseases and defects among the 697 needing medical care and treatment are given in Table 2. Multiple defects in the same individual were common.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

BARIUM SULPHATE-MERCK FOR X-RAY DIAGNOSIS (See New and Nonofficial Remedies, 1923, p. 66).

The following dosage forms have been accepted:

Skiabaryt for Oral Administration: A mixture of Barium Sulphate-Merck for X-Ray Diagnosis, 75 to 85 per cent. admixed with sugar, tragacanth, vanillin, cinnamon and cacao.

Dosage. Triturate 150 to 200 Gm. (5 to 6.5 ounces) with cold water added gradually to form a smooth, thin paste; then add warm water gradually until the mixture measures 500 Cc. (16 fluidounces). The mixture is then ready for drinking.

No U. S. patent. U. S. Trademark 165,022.

Skiabaryt for Rectal Administration: A mixture of Barium Sulphate-Merck for X-Ray Diagnosis, 75 to 85 per cent. admixed with sugar, tragacanth, vanillin and cinnamon.

Dosage. Mix 200 Gm. (6.5 ounces) with cold water to form a smooth paste; then add warm water with stirring until the mixture has acquired a fairly fluid consistency. It is then ready for administration through the irrigator.

No U. S. patent. U. S. Trademark 165,022.

Course in Medical History.—A late addition to the curriculum is the course in the history of medicine: and the reasons advanced for adding an additional burden to the already overloaded medical course and thereby helping to increase the total number of years of study, must be almost self-evident. The physician if he is to retain his status in society must be more and more a cultured gentleman. He must be more than "a dispenser of pills and powders." He must be a leader in the community, with high ideals. His aim should be "how much can I contribute rather than how much can I get out of this community." The study of the development and evolution of medicine can play a prominent part in stimulating such an altruistic attitude of mind.—*Canadian M. A. J.* **13**:195 (March) 1923.

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SATURDAY, MAY 12, 1923

NEW VIEWS ON THE PREDETERMINATION OF SEX

From early antiquity, the forecasting of the sex of the unborn child has been a matter to occupy the minds not only of physicians and biologists, but also of the public. The subject is mentioned as far back as the Jewish Talmud,[1] and reference to it crops up through intervening centuries down to the present.

Most of these conjectures, founded as they were on the insufficient data of ignorance, or plainly old wives' tales or traditions, carried no measure of conviction; but as our acquaintance with histology and biology spread and scientific minds lent themselves to the study of the question, somewhat more exact data were brought to light. In 1828, Girou de Buzareingues[2] wrote a monograph on this subject. In 1863, Thury[3] enunciated his "law," and within the last fifteen years Caullery,[4] Kushakewitsch,[5] Morgan[6] and others have contributed to the literature of the subject theories supported by more or less convincing data and experiments. In 1902, McClung[7] stated that the accessory chromosome which Henking and Montgomery had located in certain spermatozoa is the determinant of sex. In McClung's view, each animal produces two kinds of spermatozoa in equal proportions, one set of which possesses the accessory chromosome. These views were confirmed by Edmund B. Wilson and T. H. Morgan, the latter's experiments on *Rana esculenta* indicating that these accessory chromosomes also transmit the hereditary qualities that predominate in each sex. These experiments tended to discredit the untenable theories of sex determination advanced in the past.

1. Talmud Babli, Book Nidar, par. 3.
2. Girou de Buzareingues: De la génération, Paris, 1828.
3. Thury: Mémoire sur la production des sexes, Paris and Geneva, 1863.
4. Caullery: Le problème du determinisme du sexe, Biologica **1**: 193, 1913.
5. Kushakewitsch, Serge: Die Entwickelungsgeschichte der Keimdrüsen von Rana esculenta: Ein Beitrag zum Sexualitätsproblem, Festschrift für R. Hertwig **11**: 63-224, 1911; Ein Fall von Hermaphroditismus lateralis versus beim Rana esculenta, Anatom. Anzeiger **38**: 531-537, 1911.
6. Morgan, T. H.: Is the Female Frog Heterozygous in Regard to Sex Determination? Am. Naturalist **45**: 253-254, 1911; Is the Change in the Sex Ratio of the Frog That is Affected by External Agents Due to Partial Fertilization? ibid. **46**: 108, 1911.
7. McClung: Biol. Bull. **3**: 43-84, 1902.

Recently, Dr. A. Alich[8] of Paris has elaborated further on this subject. He takes exception, as unscientific, to the focusing on one of the two elements of procreation, the spermatozoon and the ovum, as the sole and only determinant in the matter of sex. He contends that, since both are concerned in the question of fecundation, both must be concerned in the matter of the initial formation of the genital organs of the fetus. Alich grants as probable the theory of chromosome activity advanced by McClung, but refuses to limit its potency to the elements contained in the structure of the spermatozoon. He contends that these activating microcellules are present in both the ovum and the spermatozoon, and that the question of sex determination is one that is explained by the preponderance of one or the other at the time of contact of the two elements. In this connection he quotes Yves Delage,[9] who in 1913 wrote:

> It may be conceded that chromatin [chromosome] is not a homogeneous substance of which the smallest particle [the microcell of today] possesses all the characteristics of the whole, but that it is a collection of units having a distinct chemical composition, of which each cell has a definite relation to certain organs of the future state, and these themselves, an analogous chemical constitution.

Alich goes on to say that both the ovum and the spermatozoon, prior to fecundation, have their cycle of life; that, like all colloids, they are subject to the laws of evolution, and that this evolution differs according to the element considered. It is granted that the human ovum may remain capable of impregnation from eight to twelve days after its extrusion from the ovary, and therefore after the conclusion of the menstrual flow. The spermatozoa may remain active in the uterus six or eight days, after having taken from six to twenty hours to arrive at this location.

With these data as a hypothesis, Alich advances the theory that each one of these microcells, either male or female, has its special complementary destination with an analogous microcell, and carries for the creation of the genital system of the new being its coefficient of creative power; that in the creating of this system in the embryo there will be involved a certain number of male microcells and equally a certain number of female. Wherefore, it may be stated that if there is in this union a greater number of male microcells than female, the result will be a male embryo, and vice versa. It is of interest to consider what Alich has to say in support of the theory advanced in the preceding sentence. He believes that spermatozoa and ova, like all organic and inorganic colloids, have, prior to fecundaiton, their vital curve; and, consequently, in their evolution, follow a fixed trajectory. That is to say, the ratio of microcellular energy in each is at its height in its early life, and becomes less potent as the life cycle of each of them decreases regularly up to the time of cellular death, when they cannot fertilize or be fer-

8. Alich, A.: Bull. de l'Acad. de méd. **89**: 363 (March 20) 1923.
9. Delage, Yves: Une hypothèse sur la base physique de la force héréditaire, Biologica, 1913, p. 161.

tilized. Granting this proposition of microcellular energy, the spermatozoon or ovum which is most potent in this particular form of energy must be the deciding factor in the production of either male or female.

Taking into account observations on animals, he finds this in support of his theory: A mare that has been much exhausted by work when bred with a fresh stallion gives male issue and vice versa. With sheep, if a number of the ewes are in rut at one time, the preponderance of lambs will be female, owing to the weakened force of the ram in covering an excessive number of ewes (relative numbers by experiment, three rams and fifteen ewes). If only a few of the ewes are in rut, the majority of the "get" will be male (relative number by experiment, thirteen rams, four ewes). The result between an adult rooster (2 years) and pullets of from 6 months to 1 year gives a preponderance of males, while in the opposite condition the balance is in favor of the female. From these three experiments, Alich makes the further deduction that, in addition to considering solely the question of the life cycle of the microcellular elements which he believes to be the determining factor in sex determination, account must be made for factors in the individual that affect this potential energy; that different individuals may have a different index of potency, and that this potency is influenced in the same individual by conditions such as fatigue or age, as exemplified in the foregoing experiments.

With these deductions, Alich believes that there is ready explanation, according to the theory which he advances, of the different hypotheses that have been advanced as explaining the question of sex incidence, and that it clarifies the vague premises advanced under heredity, dominant personality, superior physical strength and even the early one of priority of the orgasm, which is that advanced in the Talmud, already referred to.

He admits that there is perhaps a certain amount of conviction in these theories, but asserts that they fail in logic, since they are based on a one-sided view, taking into account only one of the generating elements, exclusive of the other.

In conclusion, he says:

> The laws which we have laid down and the study which we have made takes into consideration all facts which can be presented. This study shows us that, as Cuénot[10] believed, the determination of sex is syngameous; that is to say, it takes place at the time of fecundation. The two elements involved (the male and female microcells) decide the sex of the future individual at the time of contact and in accordance with the preponderance of microcellular energy in one or the other of the uniting elements, the spermatozoon or the ovum.
>
> On the variation in the relation of this intracellular energy hangs the formation of the genital tract of the fetus; any cause which tends to favor one or the other will weigh down the sex balance of the future individual.

Such is the theory that Dr. Alich offers to the French academy as explanation of this puzzling question. It is ingenious and fairly plausible; certainly as much so as what has already been advanced on the subject; but after all, as he says in finishing his discussion:

> We have laid down a law which seems in accord with experiments hitherto made along these lines and to fit the more or less empiric speculations of early writers and also the traditions handed down from father to son. That much accomplished, further confirmation of it now rests in the hands of the biologist.

10. Cuénot, L.: Arch. de zool. expér. et gén., Paris, Schleicher frères 4:6, 1907.

NEW ANESTHETICS: ETHYLENE AND ACETYLENE

Real additions to the subject of anesthesia are always welcome and desirable, and this year sees a revival of interest in two gas anesthetics: ethylene and acetylene. Both gases were the subject of experiment in anesthesia many years ago. In 1864, the physiologist Hermann[1] demonstrated anesthesia on himself with ethylene, and concluded that the gas acted similarly to nitrous oxid. It appears that Davy and Johannes Müller made similar demonstrations with ethylene on themselves. The effects that they reported were a sensation of pressure in the head, with moderate increase in respiratory rate in the beginning. This was followed by sleepiness, muscular weakness, dizziness and unsteady gait, and afterward headache. In 1876, Eulenberg[2] and, in 1885, Lüssem[3] published observations on animals. Lüssem found that ethylene in concentrations of from 70 to 80 per cent. by volume mixed with 20 per cent. of oxygen caused anesthesia in animals (frogs, birds, rabbits, dogs and guinea-pigs), preceded by excitation and followed by rapid recovery. Recovery in fresh air was complete in a few minutes. A sound, prolonged sleep was not observed in rabbits and dogs with concentrations of from 30 to 40 per cent., and the stage of excitation lasted longer. Apparently there were no after-effects and no demonstrable changes in the blood. Overdosage caused death by asphyxia. Lüssem also states that he produced light narcosis in himself with diluted ethylene.

The recent experiments of Luckhardt and Carter[4] of the Department of Physiology of the University of Chicago, and of Brown[5] of Toronto, confirm and extend these early observations, and appear to hold out greater promise of the future usefulness of ethylene.

Acetylene was described by Lewin[6] in 1885 as a rather efficient anesthetic, requiring only about 1 per cent. by volume in air for anesthesia, and apparently, therefore, more efficient than ethylene. This was confirmed in 1895 by Rosemann.[7] Marked effects in cats were produced by concentrations of from 15 to 20 per cent. by volume, many animals showing vomiting, and later

1. Hermann, Ludimar: Ueber die physiologischen Wirkungen des Stickstoffoxydulgases, Arch. f. Anat. u. Physiol., 1864, p. 521. Exp. Toxikol., 1874, p. 276.
2. Eulenberg: Gewerbehygiene, 1876, p. 398.
3. Lüssem, F.: Diss., Bonn, 1885; Ztschr. f. klin. Med. **9**: 397, 1885.
4. Luckhardt, A. B., and Carter, J. B.: The Physiologic Effects of Ethylene, a New Gas Anesthetic, J. A. M. A. **80**: 765 (March 17) 1923.
5. Brown, W. E.: Preliminary Report of Experiments with Ethylene as a General Anesthetic, Canadian M. A. J., March, 1923.
6. Lewin, Louis: Lehrbuch der Toxikologie, 1885. Ogier: Sem. méd., 1887, No. 11.
7. Rosemann, R.: Ueber die Giftigkeit des Acetylens, Arch. f. exper. Path. u. Pharmakol. **36**: 179, 1895.

dyspnea with marked general irritability. Blood appeared not to be altered by acetylene. Owing, however, to its unpleasant odor, acetylene was discarded. Apparently, this objection has now been overcome by the addition of oil of pine, as a flavor, according to the recent report of a personal visit by Horwitz [8] to Gauss' gynecologic clinic at Freiburg.

Horwitz reports that Gauss has successfully used a mixture of acetylene, 40 parts, and oxygen, 60 parts, flavored with oil of pine, as an anesthetic in major operations in 515 cases with no catastrophes. The advantages claimed for acetylene are: rapid induction (insensibility in five minutes); simplicity of administration; safety; absence of struggling and excitement, and rapid recovery. The anesthetized patients appeared to be in natural sleep and without change in color; respiration appeared to be a trifle quicker than usual, and the temperature fell about 1 degree. It is stated that women patients testified that there were no unpleasant sensations and that postanesthetic vomiting was absent. Relaxation was not so complete as with chloroform, though it was adequate for major operations. The acetylene-oxygen mixture is used by Gauss in obstetrics, but he warns that, like all general anesthetics, it diminishes uterine contractions.

In the case of acetylene, as in that of ethylene, recent observations confirm and extend those of the older workers, but with acetylene, trials on human subjects are not reported before Gauss. Both ethylene and acetylene are asphyxiants. Their usefulness in relation to that of nitrous oxid, and also to ether, remains to be demonstrated. Meantime, they should not be used indiscriminately. It will be better to permit those who can study them and observe their effects under controlled conditions to work out their relative value.

SALT-RISING BREAD AND THE WELCH BACILLUS

Until late in the nineteenth century, the preparation of bread was an uncertain and wasteful process; then Pasteur's work on fermentation led to the perfection of bakers' yeast and revolutionized the baking industry. Today bakers' bread is manufactured scientifically and with assurance. Many people, however, continue to prefer salt-rising bread, which until recently was baked at home in the crude manner of former centuries. Salt-rising bread has a distinctive flavor and odor, and its food value per unit of volume is comparatively high. It is not made with yeast, but, for sufficient gas to raise the dough, depends on chance inoculation with gas-producing organisms that naturally reside in flour. These organisms vary with different lots of dough. Thus, failures to obtain good bread are not infrequent. There are now on the market products intended to insure an abundance of gas for baking salt-rising bread, and some of these—so-called "bread starters"—are practically cultures of gas-producing micro-organisms.

Kohman,[1] in 1917, reported the isolation of a bacillus from salt-rising bread which he predicted would have far-reaching results on the salt-rising bread industry. It was said to be an exact parallel of the discovery of yeast. Two thirds of the gas formed by this organism was said to be hydrogen, the remainder carbon dioxid. It was a spore-bearing bacillus, which, it was stated, produced no alcohol, and which perished during the process of baking. "Hence," it was said, "salt-rising bread is as sterile as bread made with yeast." "Bread starters" have since been concocted which, it seems, are not sterilized during the process of baking.

Recently, Koser [2] investigated a commercial "bread starter" which was advocated for the preparation of salt-rising bread, and found that it contained large numbers of *Bacillus welchii* (*B. aerogenes-capsulatus*). It was a coarse, white powder composed of starch and certain alkaline salts in addition to the bacilli. According to directions accompanying the product, it is added to boiling hot milk and kept over night in a warm place. It is then added to hot water and flour to prepare the "sponge," which is allowed to rise; then more hot water, flour and other ingredients are added to make the dough. This is molded into loaves and baked. The addition of this starter to milk results, after incubation over night, in a frothy mass which, Koser estimated, contained from 1,000,000 to 100,000,000 *B. welchii* organisms per gram. After the bread was baked, and, in fact, after it was placed on sale, the bacillus was recovered from the interior of the loaves. In samples as small as 0.01 gm., taken from the interior of loaves, *B. welchii* was found in eighty-five out of ninety-two samples examined. Larger samples of bread, 1 and 5 gram samples, gave uniformly positive results. In decided contrast to these findings were results obtained in the examination of ordinary yeast bread, in forty 5 gram samples of which only three showed the presence of *B. welchii*. Negative results were obtained in all of the 0.1 gram samples of yeast bread examined.

Guinea-pigs were injected in the thigh muscles with 1.0 c.c. of twenty-four hour cultures in beef infusion broth containing a piece of cooked meat. The guinea-pig receiving the "bread starter" culture became quite ill after twenty-four hours. Its entire thigh and flank became swollen and tender, an ulcer formed which eventually healed with a scar, and the hair over the affected portion fell out. The guinea-pig injected with the culture obtained from loaves of salt-rising bread became somewhat sick after twenty-four hours, the thigh and flank became swollen, an extensive scar formed over the affected parts, and the hair was lost.

8. Horwitz, C. H. S.: A New General Anesthetic, Lancet **1**: 619 (March 24) 1923. Gauss, C. J., and Wieland, H.: Ein neues Betäubungsverfahren, Klin. Wchnschr. **2**: 113, 158, 1923.

1. Kohman, H. A.: Salt Rising Bread, Sc. Am. Supp. **84**: 212, 1917.
2. Koser, S. A.: Bacillus Welchii in Bread, J. Infect. Dis. **32**: 200 (March) 1923.

Thus, it seems, the virulence of these organisms was not very high. Koser then prepared salt-rising bread by using a virulent strain of the Welch bacillus. He obtained a culture of the "Silverman" strain, which originally was isolated from a war wound, and substituted it in the "bread starter." The bread thus made compared favorably in texture and size with the bread prepared from the starter.

The association of the Welch bacillus with wound infections in man is well known. It has also been associated with acute intestinal disorders in connection with public water supplies. It is said, however, to be a common inhabitant of the intestinal tract of man, and to occur frequently in milk. Nevertheless, the use of an organism of this type in a commercial process would appear to be a questionable procedure. A safer course would be to employ in "bread starters" an organism which is, beyond question, harmless.

Current Comment

MERCURIAL STOMATITIS

The characteristic inflammation of the mouth caused by the excessive use of mercury, and known as mercurial ptyalism or stomatitis, represents a condition rarely seen as a result of the therapeutic use of other drugs. Intoxication with mercury is by no means an uncommon clinical finding; the importance of this form of poisoning is, in fact, increasing, because of the wide use of mercury in certain fields of therapy, the possibility of the introduction of mercury and its salts into the body through ingestion, inhalation or cutaneous absorption in connection with industrial pursuits, and because of the current "popularity" of this poison for criminal purposes involving attempts against human life. In the more recent studies of the pathology of the subject, attention seems to have been focused on the kidneys, presumably because anuria becomes a prominent symptom in all severer forms of intoxication with the metal. Like other inorganic substances, mercury is secreted into the saliva; hence, various observers have championed the theory that mercurial stomatitis is attributable to the local irritation produced by the presence of the poison in contact with the mucosa. The German toxicologist Kobert favored this explanation, advancing in support of it the extreme sensitiveness of such membranes to even greatly diluted solutions of salts of mercury, so little as one part in a hundred thousand being perceptibly disagreeable. The problem has lately been subjected to a detailed critical review by Bessesen,[1] at the University of Minnesota. He admits that some specific local action of mercury may occur in mercurial stomatitis; but he regards this as inadequate to explain the intensity of the pathologic processes concerned. From his own observations, Bessesen finds distinct indications of blood and circulatory changes which must be taken into consideration in discussing any local lesion. They have been emphasized by many writers, and formulated into a variety of theories. The most recent review of the subject reasserts anew the belief that in mercurial poisoning the local lesions not only in the mouth but also in various other organs are due to local effects superimposed on more general or widespread vascular and cellular changes which make the local reactions possible.

1. Bessesen, D. H.: The Pathogenesis of Mercurial Stomatitis, Arch. Dermat. & Syph. 7: 332 (March) 1923.

SUGAR CONSUMPTION BY ACTIVE GLANDS

It is generally appreciated that functional activity in the body is the consequence of an exchange of materials —of metabolism, as it is currently designated. This transformation is commonly, and quite naturally, thought of in connection with the contractions of the musculature. Every one realizes that such work as is performed by the muscular system cannot be carried out without the conversion of energy, and that it goes on at the expense of organic substances stored in or brought to the contractile tissues. The mass of the muscles is so large in proportion to most other structures in the body that there is a tendency to identify the utilization of energy-yielding materials almost entirely with the functions of the muscles. The need of food fuel is, as a rule, thought of primarily in relation to the amount of muscular activity or work to be done. Since it has become comparatively easy to measure not only the heat output of the entire body as an index of its metabolic activity but also the equally significant oxygen consumption of individual organs, it has become more apparent that other structures than the muscles are also concerned with the use of energy-yielding organic compounds. Even the nervous tissues participate to a now measurable extent in the general metabolism of the organism. The blood stream leaves more than one tissue, other than that of the muscular tissues, poorer in oxygen and richer in carbon dioxid. With the development of microchemical methods for the estimation of both nitrogenous and non-nitrogenous compounds, such as amino-acids, urea and sugar, important progress has begun to be made in the appreciation of their origin, distribution or utilization. It has become possible, for instance, to estimate the actual consumption of sugar in glands as small as those which furnish the saliva. The studies of Anrep and Cannan[1] at University College, London, indicate that even the so-called resting submaxillary gland, for example, consumes blood sugar at a fairly constant rate. This utilization of readily available circulating carbohydrate is greatly increased under any influence that leads to salivary secretion. The maximal consumption of sugar corresponds with the maximal secretion, and does not occur, as does the oxygen consumption, in the postactive period. This suggests at once that there are two phases in the activity of such a secretory gland—the unoxidative phase, involving the breakdown of sugar, and the recovery phase, in which the products of this breakdown are removed, presumably through oxidation. It is interesting to see the field of the study of metabolism thus extended into domains beyond the consideration of the muscles alone.

1. Anrep, G. V., and Cannan, R. K.: The Metabolism of the Salivary Glands: The Blood Sugar Metabolism of the Submaxillary Gland, J. Physiol. 56: 248 (May) 1922; 57: 1 (Dec.) 1922.

Association News

THE SAN FRANCISCO SESSION

Dinners and Other Group Entertainments at San Francisco

Dr. Lawrence A. Draper has been appointed chairman of a special subcommittee of the Local Committee of Arrangements to arrange for dinners or other entertainments for special groups during the annual session of the American Medical Association. Several section dinners have already been arranged for, as well as other group entertainments. Those who may be interested may write directly to Dr. Draper, 806 Balboa Building, San Francisco.

Be Sure to Bring Blue Fellowship Card

Registration at the San Francisco session will be greatly facilitated if Fellows will have their blue Fellowship cards ready for presentation at a registration window. These cards have been forwarded to all Fellows whose names have been reported for enrolment by the secretaries of the constituent state medical associations. Unfortunately, some county secretaries have been dilatory in reporting the names of some members of their respective societies to state secretaries, and it has therefore been impossible for these to be enrolled on the membership roster of the American Medical Association.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Women's Medical Association.—The women physicians of the American Medical Association will hold a banquet in the Fairmont Hotel, San Francisco, June 28.

Changes in Faculty of Medical School.—The following promotions and appointments in the clinical staff of Stanford University School of Medicine, San Francisco, were announced, April 18: Dr. William P. R. Clark, promoted to professor of medicine in charge of tuberculosis work; Dr. Leo Eloesser, promoted to clinical professor of surgery; Dr. Philip K. Gilman, promoted to full clinical professorship; Dr. Thomas G. Inman, associate clinical instructor in neurology; Dr. John A. Bacher, professor of surgery in diseases of the ear, nose and throat; Dr. Harry L. Langnecker, professor of orthopedic surgery, and in charge of physiotherapy; Dr. James A. Cutting, clinical professor of medicine to conduct classes in psychiatry; Dr. Harry Spiro, assistant clinical professor of medicine; Dr. Rea E. Ashley, instructor in diseases of the ear, nose and throat; Dr. Morton R. Gibbons, instructor in hygiene and public health.

GEORGIA

Medical Association of Georgia.—At the seventy-fourth annual meeting of the Medical Association of Georgia, the following officers were elected for the ensuing year: president, Dr. John W. Daniel, Savannah; first vice president, Dr. Alfonso J. Mooney, Statesboro; second vice president, Dr. Henry C. Whelchel, Douglas, and secretary, Dr. Allen H. Bunce, Atlanta. Augusta was selected for the meeting in 1924.

ILLINOIS

Dr. Carriell Reinstated.—Dr. H. B. Carriell who was relieved as managing officer of the Dixon state colony, January 1, has been reinstated in the service of the state charities with rank of senior physician and has been ordered to report to Kankakee Hospital by the governor.

Child Health Conferences in Kane County.—A series of fifteen child health conferences were held the latter part of April by local organizations in Kane County; 600 children were examined and 1,127 physical defects recorded. These examinations are the basis of follow-up service which will be carried out by the agencies that sponsored the conferences.

Physician Sentenced.—Dr. Omar M. Willis of Metropolis, who was indicted for violation of the Harrison Narcotic Law, was sentenced recently, it is reported, to serve three years in Leavenworth, and to pay a fine of $500. Dr. Willis was indicted along with four others from the same city. Evidence was introduced to show, it is reported, that he had dispensed 13,000 grains of morphin within the last fourteen months.

Society News.—At a meeting of the Mercer County Medical Society in Aledo, April 17, the following officers were elected for the ensuing year: Dr. Bryce R. Winbigler of Aledo, president; Dr. Frederick J. Rathbun of New Windsor, vice president, and Dr. Victor A. McClanahan of Viola, secretary. Dr. Edward H. Ochsner of Chicago addressed the meeting.——The one hundredth meeting of the Fulton County Medical Society was held in Canton, April 10.——The Illinois Society for Crippled Children, fostered by the Rotary Club, was organized in Bloomington, April 12.——At the annual meeting of the Central Illinois Medical Society in Pana, Dr. Dorwin D. Barr, Taylorville, was elected president; Dr. Thomas O. Freeman, Mattoon, vice president, and Dr. Franklin A. Martin, Pana, secretary-treasurer.

Chicago

Large Fine for Physician.—It is reported that Dr. I. Clark Gary, proprietor of the Peoples' Hospital and Training School for Nurses, Chicago, was convicted in the federal court, April 23, on a charge of selling narcotics to drug addicts who were patients in the hospital. He was fined $2,200.

Society News.—At the annual meeting and banquet of the Chicago Laryngological and Otological Society, May 3, the following officers were elected for the ensuing year: president, Dr. John A. Cavanaugh; vice president, Dr. Austin A. Hayden, and secretary-treasurer, Dr. Edwin McGinnis; the president, Dr. Charles H. Long, spoke on "Chicago's Past Masters in Oto-Laryngology."——At a meeting of the Chicago Urological Society, April 30, Dr. Herman N. Bundesen, health commissioner of Chicago, spoke on "The Venereal Question in a Large City."

Cooperative Officing of Twelve Agencies.—Twelve social service agencies officially began work in a new home in the Keehn building, at 308 North Michigan Avenue, May 1. Two of the agencies were already located in this building, and within a few days, it is said all will be functioning there. Among the organizations which have their administrative offices at this location are: The Chicago Association for the Prevention and Relief of Heart Disease; the Illinois Society for Mental Hygiene; Illinois Society for the Prevention of Blindness, and the Infant Welfare Society.

INDIANA

Class Reunion.—Forty-three members of the class of 1903 of the Medical College of Indiana held a reunion in Indianapolis recently. Prof. John H. Oliver, their instructor twenty years ago, was the principal speaker. The Medical College of Indiana was the forerunner of the Indiana University School of Medicine.

IOWA

Veteran Member Honored.—The Polk County Medical Society held a testimonial meeting in Des Moines, April 24, in honor of Dr. David S. Fairchild of Clinton, who has completed fifty years as a member of the Iowa State Medical Society, and who is a former president of the society and editor of the *Journal of the Iowa State Medical Society*. Dr. Vincent O'Conor was the principal speaker. The testimonial was read by Dr. Harry E. Ransom, secretary of Polk County Medical Society.

KANSAS

Fifty Years in Practice.—The Doniphan County Medical Society gave a banquet and a gold-headed cane to Dr. William W. Carter of Wathena, April 11, in honor of his fiftieth year in practice.

MARYLAND

Library Association Convention.—The National Medical Library Association held a convention in Baltimore, May 7, at Osler Hall. This was the twenty-first anniversary of the organization. Dr. William Osler was its founder.

Medical Advisory Committee.—The following physicians have been appointed by the state board of welfare as a medical advisory committee to supervise the medical administration of the Maryland Penitentiary and the Maryland House of Correction: Drs. Francis L. Dunham, Lewellys F. Barker, Charles R. Austrian, Arthur M. Shipley and George Walker.

Survey at Bay View.—A survey of the 600 inmates of the almshouse at Bay View Asylum has been authorized by the supervisors of charities of Baltimore. The survey, which will be made during the summer by volunteer physicians under the direction of the medical director of the institution, will aim to improve the condition of the aged who are neither sick nor infirm, and determine how many of the inmates require treatment in the hospital for the insane.

Antiques Bequeathed to Johns Hopkins.—Furnishings from the home of the late Dr. William S. Halstead have been installed in the chief surgeon's office at Johns Hopkins Hospital. Dr. Halstead, who was surgeon-in-chief of the hospital and professor of surgery at the Johns Hopkins Medical School, left the entire contents of his home to the university and hospital. Some of these furnishings were recently exhibited at the Peabody Institute.

Medical and Chirurgical Faculty of Maryland Elect Officers.—At the one hundred and twenty-fifth annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Baltimore, April 24-26, the following officers were elected for the ensuing year: president, Dr. Philip Briscoe, Mutual; vice presidents, Drs. Charles Urban Smith, Baltimore, and John Percy Wade, Catonsville; Dr. Joseph Albert Chatard, secretary, and Dr. Charles E. Brack, treasurer. Dr. Harry Gideon Wells, medical research director of the University of Chicago, gave an illustrated lecture on "Hereditary Influence on Cancer."

Hospital News.—Sydenham Hospital, adjoining Bay View, will become a tuberculosis hospital for negroes when the Municipal Hospital at Montebello is completed, about October 1.——A new state hospital, recently built at Henrytown, will open shortly, with 100 beds for tuberculous cases.——A new general hospital will be established in Baltimore on the site of the old Morrow Hospital, a part of the U. S. Public Health Service, which will be given up by the government in June. It will be known as an "open hospital," that is, any physician who is approved by the executive committee may send patients to private rooms and private wards. There will be ten free beds for radium treatment. The following physicians are members of the hospital committee: Dr. Anton G. Rytina, chairman, and Drs. James M. H. Rowland, William F. Lockwood, Julius Friedenwald, Alexius McGlannan, Emil Novak, George W. Mitchell, Charles F. Blake, Albertus Cotton and Arthur Hebb.

MASSACHUSETTS

New England Society of Psychiatry.—At a meeting of the society in Foxboro, April 11, the following officers were elected: president, Dr. Arthur H. Ruggles, Providence, R. I.; vice president, Dr. Charles H. Dolloff, Concord, N. H., and secretary-treasurer, Dr. Roderick B. Dexter, Taunton, Mass. Dr. Charles Macfie Campbell and Dr. Oscar J. Raeder read papers.

Personal.—Dr. A. G. Griffin of Malden has been appointed resident physician to the American Woolen Company's Community Center at Shawsheen Village. Dr. Griffin has been a member of the staff of the Malden Hospital for more than thirty years.——Dr. Edward K. Burbeck has been appointed medical director of the Devereaux Mansion Sanatorium, Marblehead, succeeding the late Dr. Herbert J. Hall, founder of the institution.——Dr. Frank B. Mallory, recently elected treasurer of the American Association of Pathologists and Bacteriologists, has been elected editor of the *Journal of Medical Research*.——Prof. Samuel W. Stratton, D.Sc., president of the Massachusetts Institute of Technology, Boston, will be formally inaugurated, June 11.——Dr. Richard P. Strong, director of the department of tropical medicine at Harvard Medical School, was recently elected vice president of Section N (Medical Sciences) of the American Association for the Advancement of Science.

MICHIGAN

Sterilization Bill.—The Sligh bill, providing for the sterilization of feebleminded and mentally defective persons, has passed both branches of the legislature.

Michigan Trudeau Society Elects Officers.—At the annual meeting of the society at Howell, the following officers were elected: Dr. Benjamin A. Shepherd, Kalamazoo, president; Dr. John W. Toan, Howell, vice president; Dr. William H. Marshall, Flint, secretary-treasurer.

Personal.—Dr. Wellington B. Huntley has been appointed city health officer of Ionia to succeed Dr. Joseph Johns, who has gone to Scotland for postgraduate work in surgery.——Dr. Henry M. Warren, Jonesville, has been reappointed health officer of Scipio Township. Dr. Warren is 83 years of age.——Dr. William H. Taylor of Ludington, practicing physician in Mason County for the last thirty-eight years, has announced his retirement, it is reported. Dr. Mason has been county physician for twenty-five years.

MINNESOTA

Annual Banquet.—Hennepin County Medical Society held its annual banquet in Minneapolis, April 17. There was an attendance of 275. The address of the evening was given by Dr. John R. Murlin, Rochester State University, New York, whose subject was "Progress and Preparation of Pancreatic Extracts for the Treatment of Diabetes."

MISSISSIPPI

Official Opening of Sanatorium.—Mississippi's tuberculosis sanatorium will be opened officially June 11, although all contracts have been completed, and patients have already been admitted. The total capacity is 415.

MISSOURI

Personal.—Dr. Robert C. Robertson, Aurora, secretary of the Lawrence-Stone Medical Society, has been appointed assistant physician at State Hospital No. 4, Farmington.——Dr. Harvey D. Lamb, St. Louis, has been appointed ophthalmologist to the Missouri School for the Blind, to succeed Dr. Joseph W. Charles, whose term has expired.——Dr. Nathaniel Allison, dean of Washington University School of Medicine, St. Louis, addressed the Jackson County Medical Society at Kansas City, April 14, on "Medical Problems."——Drs. Akira Fujinammi, Sahachiro Hata, Kinnosuke Kiura and Baron Takaki, of the commission of Japanese medical scientists, visited the Washington University School of Medicine, St. Louis, April 23-26, under the auspices of the Rockefeller Foundation.——Dr. Howard D. Kearby, city health officer of St. Joseph, has resigned. Dr. Leroy Beck, president of the Buchanan County Medical Society, has been elected to succeed him.——Dr. Otto Meyerhoff, professor of physiology, University of Kiel, lectured at the Washington University School of Medicine, St. Louis, on the "Dynamics of Muscle," and the "Energetics of Cell Processes," April 17-18.—Dr. Ralph A. Kinsella, acting professor of medicine, Washington University School of Medicine, St. Louis, addressed the Atlantic City meeting of the American Association for the Advancement of Medical Research on "Experimental Reproduction of Glomerular Nephritis."——Professor Bakule, Prague, gave a lecture and demonstration under the auspices of the St. Louis School of Occupational Therapy, Washington University School of Medicine, May 1. He is touring the United States with a group of handicapped children, whom he has trained to become adept at some gainful occupation.——Dr. Eugene L. Opie, professor of pathology, Washington University School of Medicine has again been elected to membership in the National Academy of Sciences.

NEBRASKA

State Medical Meeting.—The fifty-fifth annual convention of the Nebraska State Medical Association will be held in Lincoln, May 15-17, under the presidency of Dr. Benjamin F. Bailey. Drs. James B. Herrick, Chicago, and Arthur E. Hertzler, Kansas City, Mo., will be guests of honor.

NEW YORK

Women's Medical Association.—At the meeting of the Women's Medical Association of New York, to be held in the Hotel McAlpin, New York City, May 21, subjects concerning gastric disturbances and eye diseases will be discussed at the morning session, and subjects concerning diseases of the uterus, the relation of mental deficiency to prostitution, and other subjects will be discussed in the afternoon.

New Medical Society Formed.—The Rockaway Medical Society, recently formed, includes physicians from Rockaway Beach, Far Rockaway, Lynbrook, Rockville Center and other

Long Island towns. It has a membership now of thirty-five, and holds meetings on the third Fridays of each month. The officers are Leonard S. Rau of Lawrence, president; Abraham W. Victor, Rockaway Beach, vice president; Herbert L. Langer, Arverne, secretary; Louis V. Clark, Far Rockaway, treasurer.

Bill to Report Divorce Statistics.—A bill is under consideration by the legislature which would require all courts to report statistics of divorce cases to the state department of health. Its purpose is to give data for vital statistics and for social welfare workers concerning the names of divorced people, the nature of the divorce action, and the number, names, age and sex of the children involved. The bill is opposed on the ground that such information should not become public.

United Hospital Fund.—On April 17, the committee on dispensary development of the United Hospital Fund began a series of conferences intended especially for persons engaged in dispensaries or the outpatient departments of hospitals. The conferences are held at the New York Academy of Medicine and are free to all. The subjects to be discussed will include: admission of patients, records and statistics, cooperation between dispensaries and other agencies, clinic management, and follow-up work.

New York City

Hospital for Joint Diseases Raises Funds.—This institution is conducting a campaign to raise $700,000 for the completion of its new building on Madison Avenue between One Hundred and Twenty-Third and One Hundred and Twenty-Fourth streets. More than $200,000 of the amount required was raised in a few minutes at a meeting of the directors.

Bronx Physicians' Club.—For the purpose of scientific group discussion of the cases and problems met with by the general practitioner, the Bronx Physicians' Club has been organized. Every month an authority in some particular field is invited to speak. Officers of the society are: president, Dr. Benjamin Antin; secretary, Dr. William Koblenz, and treasurer, Dr. Benjamin Archer.

Academy of Medicine Campaign a Success.—The results of the drive to raise $250,000 among the members of the New York Academy of Medicine for the purchase of a site for a new building were announced by Dr. George David Stewart at the stated meeting of the Academy on May 3. The total amount subscribed up to that time by Fellows and associate members was $317,711.05. The total percentage of resident active Fellows subscribing is 90 per cent., the total percentage of all classes of members who have contributed is 82 per cent. The total cost of this campaign which has met with such unusual success was $6,627.92, or 2.1 per cent. of the amount raised. Dr. Royal Storrs Haynes was chairman of the committee of sixty, which had charge of the campaign. The success of the Academy in securing this fund assures it of the contingent fund of $1,000,000 from the Rockefeller Foundation and a similar amount from the Carnegie Foundation and opens the way for this institution to fulfil in a fitting way its function as a repository of medical learning.

OHIO

Memorial to Physician.—A $25,000 nurses' home will be erected in Youngstown, as a memorial to Dr. Rocco Montani, who was killed in an automobile accident, Nov. 26, 1922.

Physicians Fined.—It is reported that Drs. Clifford G. Smith, John A. Dodd and Dana O. Weeks, Marion, were recently fined $50, $75 and $200, and costs, respectively, when they pleaded guilty to violation of the Harrison Narcotic Law.

Chiropractors Arrested.—George E. Laubby, president of the Akron College of Chiropractic, and nine other chiropractors of Akron have been arrested for advertising to practice their profession without being licensed by the state, it is reported.

Society News.—The Academy of Medicine of Toledo and Lucas County held a general meeting, May 4, at which the following program was presented: "Trigeminal Neuralgia.—Tic Douloureux," Dr. William T. Coughlin, St. Louis University; "Diagnostic Signs of Endocrine Disease," Dr. John L. Tierney, St. Louis.

State Association Officers.—At the recent meeting of the state medical association at Dayton, May 2, Dr. George E. Follansbee, Cleveland, was chosen president-elect. Dr. Joseph S. Rardin, Portsmouth, is now president, and Don K. Martin, Columbus, executive secretary. The next annual meeting will be held in Cleveland.

Contagious Disease Outbreaks.—The schools of Homer were closed recently, due to an outbreak of scarlet fever.—Smallpox has been reported in Pike County at four widely separated locations.——A measles epidemic at Elyria has been averaging about twenty new cases a day.——It was reported, April 18, that there was a total in the state of 502 cases of scarlet fever, 177 cases of diphtheria, and 147 cases of smallpox.

PENNSYLVANIA

Pennsylvania Food Law.—Since Governor Pinchot signed the so-called flour bill, amending clause 5 of section 3 of the state food law of May 13, 1909, the state department of agriculture has been asked what stand it will take in the matter. The Department of Agriculture will take, it is reported, no action for the present in connection with the manufacture or sale of aged, bleached or matured flour, pending further research and experimental investigation as to whether or not the nutritive value of flour is injuriously affected by such aging, bleaching or maturing. Should later developments disclose that the aging, bleaching or maturing of flour affects its quality or purity, or makes the flour appear better and of greater value than it really is, or that the substances used are injurious to health, action will then be taken by the department through the proper agencies.

Philadelphia

Dr. Work Addresses Medical Club.—Dr. Hubert Work, Secretary of the Interior, outlined the duties of the various bureaus of his department to more than 300 physicians at a meeting of the Medical Club of Philadelphia, April 20.

University News.—The first award of the Mary Ellis Bell prize for the best undergraduate work in medical research at the University of Pennsylvania was made to John B. Barnwell and Ralph Lynch for work on transplantation of islet tissue. This work was presented at the fifteenth annual meeting of the Undergraduate Medical Association, April 19.

Gift to Academy of Sciences.—A tablet to Alexander Wilson, American ornithologist, which will be unveiled at the Academy of Natural Sciences, May 17, was designed by Dr. R. Tait McKenzie and presented to the academy by the St. Andrews Society of Philadelphia, through the generosity of the late Dr. F. Lawson Cameron. Alexander Wilson was born in Paisley, Scotland, July 6, 1766, and died in Philadelphia, Aug. 23, 1813.

Society News.—The tenth annual meeting of the Public Charities Association of Pennsylvania was held, April 30. Dr. Charles H. Frazier was elected president, and Dr. Charles J. Hatfield, vice president. C. Allison Scully was appointed treasurer.——The seventy-seventh anniversary and annual banquet of the Northern Medical Association was held at the Hotel Adelphia, April 30.——The state meeting of the College of Physicians, held, May 2, was devoted to health education. Dr. Edwin C. Broome and Dr. James M. Anders gave addresses.——Dr. Joseph Sailer was reelected president of the Philadelphia Association for the Prevention and Relief of Heart Disease, at the second annual meeting, April 18. Drs. George W. Norris, vice president; William D. Stroud, secretary, and Morris W. Stroud, treasurer, were also reelected.

SOUTH CAROLINA

State Association News.—At the annual meeting of the South Carolina Medical Association, at Charleston, April 17, the following officers were elected: Dr. Leland O. Mauldin of Greenville, president; Benjamin O. Whitten, Clinton, first vice president; Edgar A. Hines, Seneca, secretary-treasurer (reelected). A woman's auxiliary society was organized, and Mrs. R. S. Cathcart, Charleston, elected president.

VERMONT

Sheppard-Towner Bill Rejected.—The senate has refused to adopt a resolution to accept the Sheppard-Towner Law.

VIRGINIA

Walter Reed Medical Society.—At the annual meeting of the Walter Reed Medical Society, at the National Soldiers' Home, Hampton, May 2-3, Drs. B. B. Vincent Lyon, Philadelphia, and Walter E. Dandy, Baltimore, were among the speakers. Officers elected for the ensuing year were: president, Col. Louis A. Thompson, Hampton; vice president, Dr. Harry D. Howe, Hampton, and secretary-treasurer, Dr. Landon E. Stubbs, Newport News.

WASHINGTON

Appropriation for Survey Requested.—At the semiannual meeting of the Washington State Board of Health, recently, the legislature was requested to appropriate $8,000 for a health survey of the Yakima Valley, in which there has been an annual epidemic of typhoid fever.

WISCONSIN

Personal.—Dr. Joseph Lettenberger, Milwaukee, has been appointed coroner of Milwaukee County, to succeed Frank Luehring, deceased.

Soldiers' Home Opened.—The new 662 bed tuberculosis hospital at the Northwestern Branch, National Home for Disabled Volunteer Soldiers, was formally opened to the public, May 1.

CANADA

Physicians Elected to Mayoralty.—Three physicians of Nova Scotia have been elected mayors of their respective towns. Dr. Edward DuVernet of Digby; Dr. Carmon S. Marshall of Bridgewater, and Dr. George W. Whitman of Stellarton.

Western Ontario Academy of Medicine.—At a meeting of the academy at London, Ont., April 7, Prof. L. J. Austin of Queens University, Kingston, gave an address on "Tuberculosis of the Kidney and Bladder." Dr. Albert J. Ochsner of Chicago, president-elect of the American College of Surgeons, gave a clinical demonstration of postoperative fistulas and gastro-intestinal diseases. At the meeting of the academy on April 27, Dr. Dean D. Lewis of Chicago spoke on "Diagnosis of Bone Lesions," and Dr. Henry S. Plummer of Rochester, Minn., on "Diseases of the Thyroid." At the next meeting, May 25, Dr. Hugh Cabot, Ann Arbor, Mich., will speak on "Renal and Bladder Calculi," and Dr. William Goldie, Toronto, on "Hypertension."

Public Health News.—The schools and churches in North Vancouver, B. C., have been ordered closed on account of an outbreak of smallpox. A total of six cases has been reported to date.——According to reports received by Dr. J. W. S. McCullough, provincial health officer for Ontario, the typhoid epidemic at Cochrane, Ont., has practically run its course. During the past few days the daily average of new cases has not been more than two or three, where formerly it was as high as fifteen and twenty. Recently the provincial health department forwarded $20,000 to the stricken center. During the epidemic the department has had two physicians, one supervisor, one engineer, nine public health nurses and one nursing supervisor in the afflicted district.

Hospital News.—A new hospital to care for acute mental cases is under construction at Essondale, B. C. It is to cost $650,000, and will have accommodations for 250 patients.——A new $500,000 home is planned for the Hotel Dieu de Precieux Sang at Quebec.——It is planned to build an addition to the 400-bed Hamilton General Hospital, Hamilton, Ont.——The new maternity hospital to be erected in Montreal will be known as the Salvation Army Maternity Hospital. The estimated cost of construction is $200,000.——The new epidemic hospital, connected with the General Public Hospital, St. John, N. B., was formally opened recently.——The late William Hill of East Toronto has bequeathed the sum of $100,000 for the purpose of erecting a hospital east of the Don.

GENERAL

Association of American Physicians.—At the annual meeting of the association at Atlantic City, N. J., May 1-3, the following officers were elected for the ensuing year: president, Dr. Charles F. Martin, Montreal; vice president, Dr. Lewis A. Conner, New York; secretary, Dr. Thomas McCrae, Philadelphia, and treasurer, Dr. Joseph A. Capps, Chicago.

Director of International Health Board Appointed.—Dr. Frederick F. Russell, formerly director of the International Health Board's public health laboratory service, has been appointed general director of the International Health Board to succeed Wickliffe Rose, who resigned to accept the presidency of the newly incorporated International Education Board, and of the General Education Board. The latter office became vacant by the retirement of Wallace Buttrick, who became chairman of the General Education Board.

President George E. de Schweinitz Honored by British Ophthalmologists.—At the annual congress of the Ophthalmological Society of the United Kingdom, held in London at the headquarters of the Royal Society of Medicine, April 26 to 28, Dr. George E. de Schweinitz, President of the American Medical Association, delivered the Bowman Lecture on "Certain Ocular Aspects of Pituitary Body Disorders, Mainly Exclusive of the Usual Central and Peripheral Hemiopic Field Defects." Dr. de Schweinitz was elected an honorary member of the society.

American Medical Diplomas in India.—A warning has been issued to Indian medical students by the Bengal government against taking courses at a private institution to be established in Calcutta under the name of the "International Medical College." It is stated that this institution purports to train students for the M.B. and M.D. degrees of the Lincoln Jefferson University of Illinois (a university not recognized by the General Medical Council of the United Kingdom or the Council on Medical Education of the American Medical Association), and its degrees and diplomas will not, therefore, be accepted as satisfactory qualification for the practice of medicine in America, and Great Britain and her colonies.

Society News.—The American Dietetic Association will hold its annual meeting, Oct. 15 to 17, at the Hotel Claypool, Indianapolis, Ind.——The fifth annual meeting of the Western Electro-Therapeutic Association was held at Kansas City, Mo., April 19 and 20. The following officers were elected: Dr. Harry H. Bowing, Rochester, Minn., president; Edward H. Skinner, M.D., Kansas City, Mo., first vice president; Warren P. Grimes, M.D., Kansas City, Mo., treasurer; B. C. Harris, M.D., Sapulpa, Okla., registrar; trustees, Tilman Howard Plank, M.D., Chicago, and Burton B. Grover, M.D., Colorado Springs, Colo.——At the annual meeting of the American Society for Clinical Investigation, at Atlantic City, N. J., April 30, the following officers were elected: Campbell P. Howard, Iowa City, president; Alfred E. Cohn, New York, vice president; John H. Austin, Philadelphia, secretary; David P. Barr, New York, treasurer; member of council, James H. Means, Boston.

Pharmacopeial Trustees Entertained in Cincinnati.—The board of trustees of the United States Pharmacopeia met in Cincinnati, May 4 and 5, for the transaction of business connected with the publication of the tenth edition of the United States Pharmacopeia, the manuscript of which is nearing completion. Drs. Solomon Solis Cohen, Philadelphia; Henry M. Whelpley, St. Louis; James H. Beal, Urbana, Ill.; Dean F. J. Wulling, Minneapolis; Prof. E. Fullerton Cook, Philadelphia, and Samuel L. Hilton, Washington, were present. The board was entertained, May 4, at a dinner which was given by the Ohio Valley Druggists' Association and the Cincinnati Branch of the American Pharmaceutical Association, at which about 200 physicians were present. Brief addresses were delivered as follows: "Pharmaceutical Education in Cincinnati," Charles T. P. Fennell, Phar.D., dean of the Cincinnati College of Pharmacy; "Medicine in Cincinnati," Charles E. Caldwell, A.M., M.D., professor of clinical surgery and surgical anatomy, University of Cincinnati College of Medicine; "Early Pharmacy in Cincinnati," John Uri Lloyd, Ph.M., Sc.D., M.D., former president of the American Pharmaceutical Association; "The Pharmacist and the Pharmacopeia," James Hartley Beal, Phar.D., Sc.D., LL.B., Urbana, Ill., chairman of the board of trustees of the U. S. Pharmacopeia; "The Physician and the Pharmacopeia," Solomon Solis Cohen, A.M., M.D., Philadelphia, professor of clinical medicine, Jefferson Medical College. The address by Dr. Caldwell was full of historical data of interest to all Cincinnati physicians. He gave a long list of the names of pioneers who had made Cincinnati a medical center early in the nineteenth century, a list which included such names as Drake, Whitaker, Wright, Taylor, Connor, Busse, Graham, Roberts and Bartholow. The closing address by Dr. Cohen was a plea for a comprehensive pharmacopeia in which would be included all the medicaments of well-established value. He said that he was much pleased to note a recession in the tide of therapeutic nihilism which had swept over the medical world, and indications of a return to the conservative but intelligent use of medicines. Dr. Cohen edited a shelf of books devoted to therapeutic measures other than drugs, but he is thoroughly convinced of the value of drugs when properly administered. He decried the negative attitude of pharmacologists who, because they were unable to experience certain results reported by clinicians, denied the accuracy of the clinical observer. He said that the work of the pharmacologist was necessarily coarse in its results as compared with those obtained by the experienced and competent physician at the bedside. While he acknowledged the value of the service of pharmacologists, he protested strongly against the negative dicta so frequently put forth by some of them.

The National Antinarcotic Conference.—Representatives of various agencies engaged in antinarcotic activities assembled in Washington, D. C., May 2-5. Approximately fifty persons were present. Dr. George M. Kober of Washington was elected chairman of the conference and Mr. Rexford L. Holmes was elected secretary. Dr. W. C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association, was present to study the conference and to aid in determining the extent to which the Association might identify itself with the conference and its activities.

Symposiums were held on the narcotic problem, how organizations may assist in the fight against the narcotic habit, the control of the narcotic evil by the federal government, the state control of the narcotic evil, municipal control of the narcotic evil, international amity in fighting the narcotic evil and the place of the church and the university in the fight against narcotics. A statement prepared by Secretary of State Hughes was read, pointing out that it had been the policy of the United States to restrict the manufacture and distribution of narcotics to medicinal and scientific uses, adhering to the letter and the spirit of the Hague Opium Convention of 1912. The United States is, Mr. Hughes said, in constant communication with other nations, exchanging information looking toward the detection and apprehension of illicit dealers, and illicit traffic is becoming internationally more difficult; but adequate progress cannot be made in the suppression of the traffic until there is a general agreement on what is to be regarded as illegitimate traffic. The United States government regards as legitimate only traffic for medical and scientific purposes and feels that illegitimate traffic cannot be stopped unless production of the raw product for other than medical and scientific purposes is stopped. Mr. Hughes announced the intention of the Department of State to endeavor to bring about an international recognition of that principle.

The conference went on record as defining the legitimate use of opium as use for medical and scientific purposes, and denied the asserted legitimacy of its use in tropical countries as an alleged stimulant. Resolutions were adopted urging that statutes and ordinances for the limitation of the use of narcotic drugs to medical and scientific purposes should be enacted, where not already in effect, and strengthened where they already exist, and that a greatly increased field force be provided to see to their effective administration; but that inasmuch as regulations may be a burden to legitimate practitioners and dealers, the conference recommended that only such regulations be maintained as are absolutely necessary to prevent the evils aimed at. Other resolutions pointed out the necessity for the immediate material increase of the appropriations for the enforcement of the various federal narcotic laws, called upon the federal authorities to use all appropriate agencies of the government to suppress the smuggling of habit-forming narcotics into the country, since such smuggled narcotics constitute the greatest part of the pedler's supply, and recommended that federal enforcement of the narcotic laws and regulations be separated from enforcement of the prohibition laws and regulations. The Opium Advisory Committee of the League of Nations sitting in Geneva was requested to take steps to provide for the amending of the International Opium Convention so as to make it effective, if the committee should find that it is not now effective. In view of representations made to the conference that in event of the curtailing of the production of opium and its products and of cocain, by international agreement, synthetic heroin and cocain might be produced on a commercial scale, a resolution was adopted urging that all chemical laboratories manufacturing synthetic cocain or heroin be under governmental control, that such products be labeled synthetic, and that the amount of each that might be produced in each country be limited in the same manner as the corresponding natural products are limited.

The conference created a committee to arrange for a permanent organization, as a body made up of representatives of agencies engaged in antinarcotic activities, a committee to formulate a statement of the principles involved in the limitation and prevention of narcotic addiction, and a committee to further the formulation and enactment of uniform legislation by the several states to supplement the Harrison Narcotic Act where necessary. Without committing the American Medical Association to participation in the further activities of such conferences as may be called, Dr. William C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation, was appointed a member of each of the committees named.

LATIN AMERICA

League for Mental Hygiene Founded in Brazil.—At a recent special meeting of the Brazil Sociedade de Psychiatria, it was decided to organize a Liga brazileira de hygiene mental, modeled on, and affiliated with, the League of Mental Hygiene in North America.

Yellow Fever in Brazil.—The *Folha Medica* relates that the extreme eastern coast of Brazil, from Ceará to Bahia, has a chain of endemic foci of yellow fever. The disease is prevailing now at the points farthest north and farthest south, and the latter are menacing Rio de Janeiro and the rest of the country.

Congress on Hospital Administration in Chile.—The *Revista de Beneficencia Pública* of Santiago, Chile, devotes a bulky number to the transactions of the Second Chilean Congress of all interested in the administration and support of the public hospitals of the country. The official organization for the purpose in Chile is called the Beneficencia Pública, and 286 of the officials, medical and lay, registered for the congress. The first one was held in 1917, and a large number of the resolutions voted then have been carried into effect. Among the new resolutions adopted were some urging the founding of regional hospitals and of institutes for welfare work for children. Twenty of the leading addresses are reproduced, including Dr. G. Greve's study of employment for the chronic sick in hospitals and asylums; Dr. G. Amunátegui's discussion of medical intern service, and others on pay patients in the free hospitals.

FOREIGN

Prophylaxis of Venereal Disease at Madrid.—The *Medicina Ibera* states that the first official dispensary for prophylaxis of venereal diseases has just been opened at Madrid.

Factory Regulations in Japan.—A bill for revising the Japanese factory law has been introduced into their house of representatives. Among its provisions are: to reduce the working hours for juveniles and females and to give them two holidays each month; to prohibit night work for juveniles; to restrict working hours for women before and after childbirth; to improve the sanitary conditions in the factories, and to give higher compensation for injuries, even when the accident is through the carelessness of the worker.

Prize for Medical Historical-Economic Study.—The Société médicale des hopitaux de Paris announces that the Paul-Legendre Prize of 3,000 francs will be awarded in December, 1923, for the best work on the subject "Statistical and Critical Historical Study of the Activities of the Civil and Military Medico-Surgical Corps of France during the War 1914-1918 and the Consequences as Affecting Physicians, with Conclusions Based on These Facts." Manuscripts should be sent to the bureau of the society, 12 Rue de Seine, before November.

Public Health in Finland.—A health council composed of twenty members has recently been formed in Finland. The president of the public health council; the professor of hygiene at Helsingfors University; representatives of the antituberculosis society, the Society for Combating Venereal Disease, the child welfare league, and the two Finnish medical societies are among its members. The council will work under the auspices of the Finnish Red Cross. Its first efforts will be to publish a bulletin representative of all its member societies, and to the question of a limited health demonstration.

Epidemic Encephalitis.—At the recent Congress for Internal Medicine at Vienna, April 9, this disease was the main subject for discussion, the opening address being by Economo, to whom the term "lethargic encephalitis" is due. The general verdict was that treatment has little prospect of success, and that the prognosis is growing graver as experience accumulates. Nonne commented on the three sets of symptoms in the chronic form: "depersonalization; changes in the motor apparatus; changes in the metabolism." In the lively discussion that followed, many single instances of a favorable outcome were reported.

Cancer Research in Japan.—The Japanese Sociey for Cancer Research was founded in 1908, and publishes the quarterly, *Gann*. It has now 280 members. Scholarships to a value of $5,000 were distributed to sixteen workers in 1922. It appeals to research workers in other countries for reprints of their publications so that they can be translated into Japanese as a part of the society's work. The editor, M. Nagayo, Pathologic Institute, University, Tokyo, Japan, should be addressed. *Gann* is published in an English-German edition, and the

issue for February, 1923, contains the list of contents of all the preceding numbers of the total fifteen volumes.

Personal.—Prof. A. V. Hill, Manchester, England, succeeds Dr. E. H. Starling as Jodrell professor of physiology at University College, London.——Dr. Giuseppe Caronia has been nominated professor of clinical pediatrics in the University of Rome to succeed the late Prof. Luigi Concetti.——Dr. Edward W. Scripture, formerly professor of experimental psychology at Yale University, New Haven, Conn., at present connected with King's College, University of London, England, has been appointed professor of experimental phonetics at the University of Vienna.——Sir Frederick Mott, director of the pathologic laboratory of the Maudsley Hospital of the London County Council, is retiring under the age rule, but the council has arranged to retain his services until next October. Sir Frederick has held the appointment since the hospital was erected.——At a special convocation, April 11, the University of Pennsylvania conferred the honorary degree of Doctor of Science on Sir Joseph Thomson, master of Trinity College, Cambridge. Sir Joseph, after concluding his lectures before the Franklin Institute, returned to England, April 14.——Prof. W. P. Wynne, Firth professor of chemistry in the University of Sheffield, was elected president of the Chemical Society of Great Britain, at the annual meeting, to succeed Sir James Walker.——Dr. Kenelm H. Digby, professor of anatomy and Ho Tung professor of clinical surgery, and dean of the Faculty of Medicine, University of Hong Kong, arrived in New York, April 3.——A pension of 8,000 francs has been granted by the city of Paris to the widow of Dr. Leray, the roentgenologist, who died in 1921 from injuries professionally acquired.——Prof. J. Bordet of complement fixation fame, has been decorated by the king of Sweden with the cross of the Order of the Pole Star.——

Deaths in Other Countries

Major **Thomas J. Crean,** veteran of the South African and World wars; recipient of the Victoria Cross, in London, March 25.——Dr. **Elfrida Spencer,** house surgeon, Victoria Hospital for Children, London, March 17, of influenza and pneumonia.——Dr. **A. G. Simmins;** served with the British Navy during the World War; of influenza, March 23.——Dr. **W. H. Lloyd,** senior naval honorary surgeon to the king of England, April 2, in London. Dr. Lloyd became a surgeon in the navy in 1856, and fought in the China seas and, during the American Civil War, aboard the flagship *Nile*. He represented the British admiralty at the International Congress of Military Surgeons in Washington, D. C., in 1887.——Dr. **Carl Spengler,** a Swiss authority on tuberculosis, recently, at the age of 64.——Dr. **F. de Ipanema Langgaard,** consul for Brazil at Copenhagen.——Dr. **Aquiles Ferrante** of San Fernando, Dr. **E. Loudet** of Sante Fé and Dr. **V. D. Madrazo** of Buenos Aires.——Dr. **M. Immelmann** of Berlin, a pioneer in roentgenology as applied to orthopedics and physical therapeutics, aged 56.

Government Services

General Hospital Authorized

Pursuant to instructions of the Secretary of War, the organization of General Hospital No. 8, organized reserves (New York Post-Graduate Medical School and Hospital Unit, New York) has been authorized.

Field Service School Graduates

Four medical officers of the National Guard, three of the Reserve Corps, and three of the Navy completed the short basic course at the Medical Field Service School, Carlisle Barracks, Pa., April 21. Brig.-Gen. Walter D. McCaw, assistant Surgeon-General, gave the principal address at the graduating exercises. Joseph C. DeVries, Lieut.-Col., M. O. R. C., Brooklyn, announced that he would donate a medal each year to the student officer who attained the highest proficiency in the subject of drill and command. Capt. E. F. Sanford, M. O. R. C., was medalist in this class. Col. Percy M. Ashburn, commandant, presented diplomas to the following:

Capt. D. E. Abraham, M. O. R. C., Louisville, Ky.
Lieut. J. H. Durrett, Med. Corps, U. S. Navy.
Capt. J. P. Golden, D.C., N. G., Natick, Mass.
Lieut. Com. J. V. McAlpin, D. C., U. S. Navy.
Lieut. James Humbert, M. C., U. S. Navy.
Capt. B. F. Pound, D. C., Ore. N. G., Salem, Ore.
Capt. S. H. Rinehardt, M. O. R. C., Waynesburg, Pa.
Capt. E. F. Sanford, M. O. R. C., Buchanan, Ga.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 17, 1923.

Veterinary Work in India

Last year an advisory committee appointed to report on research in diseases of animals in India stated that there were immense opportunities, which were almost wholly neglected. A conference of veterinary authorities convened by the government, which met last February at Calcutta, confirmed the preceding statement and urged the training in courses of two or three years of native veterinarians of a second grade cadre, who might at least be competent to carry out instructions and perform routine work. The present financial stringency prevents the materializing of a recommendation of previous conferences to provide facilities for the training of natives up to the highest standards. Experience with the training of Indians in other branches of applied science, such as medicine, shows their capacity to grasp fully the results of modern science. But for this, an ample preliminary education and a full course of four years' professional work at a properly equipped college would be necessary. The conference reviewed the state of knowledge and practice with regard to the chief animal diseases now ravaging India, and arrived at lamentable conclusions. Anthrax infection is so heavy in East Indian wool, hair and hides that the labor organization of the League of Nations drew attention to it. The cost of disinfecting wool is greater than its present value. The conference decided that the agencies for the notification of anthrax must be improved, and that much research and skilled inspection are required to attack the cause at its seat. Rinderpest still exacts a heavy toll from live stock in India, and although an efficient serum is produced in large quantities in the Muktesar Imperial Bacteriological Laboratory, the veterinary service is insufficient to distribute and administer this preventive measure. Surra disease of horses and camels is sometimes so disastrous as to interfere with military operations. It is known to be caused by a trypanosome and probably, like trypanosomiasis and nagana, is insect-borne. But entomologic and veterinary research is necessary to discover the bearer and, therefore, the means of dealing with the disease. Though tuberculosis is supposed to be a rare disease of cattle in India, it is an increasing cause of death in industrial centers, and a large proportion of cases show symptoms which in Europe are associated with the bovine type. But there is at present neither knowledge as to the prevalence of the human and bovine type of bacillus, nor any organization for getting it. Contagious abortion of mares and cattle, and the large number of infections due to hookworm, rabies and other diseases await research on a much larger scale. The conclusion is that veterinary education, research, legislation and administration in India are unsatisfactory, and require the serious attention of the government.

The Prohibition of Lead in Paints

The question whether white lead can be displaced by leadless paints is dealt with in an important government report. In 1911, the home secretary appointed two committees to investigate in regard to the painting of buildings and of coaches. These committees reported in 1915 and 1920, and advised that it was not practicable adequately to safeguard the health of the painters by regulations, and further, that substitutes existed which could satisfactorily displace white lead for all purposes. They therefore recommended its prohibition. During the war, no attempt was made to give

effect to the recommendation. In 1921, owing to the serious failures of these substitutes, which had been observed in government work, a new committee was appointed to examine the matter. This committee now reports that it cannot support the recommendation that the use of lead paint for the painting of buildings be entirely prohibited, and that for outside painting and certain internal painting there is no efficient substitute for lead. Prohibition would increase cost, but though economy is important just now, that is not regarded by the committee as an adequate reason for exposing workers to the risk of lead poisoning. However, since the reports of the 1911 committees were made, further research on the hygienic problems of painters has indicated preventive measures which would make their calling safer to health. A study of the whole of the scientific work done in this connection shows that the chief danger lies in the inhalation of dust produced during the dry rubbing-down process. As it is now practicable to substitute a dustless process, the former can be discontinued. The new process involves the use of a water-proof sandpaper, the manufacture of which has recently been successfully undertaken in this country. The committee suggests the adoption, with modifications, of the convention recommended at the international labor conference at Geneva in November, 1921.

The Coloring of Poisons

At a recent trial, a well-known judge suggested that solutions of deadly poisons should be colored as a safeguard against mistakes. The proposal to give poisons distinctive colors has now taken a practical shape. The privy council has asked the general medical council to express its opinion on the proposal that strychnin should contain enough "brilliant green" to make it readily recognizable. It is further proposed to add suitable dyes to the arsenical poisons "sheep dip" and "weed-killer," so that if they should be administered for homicidal purposes (as they have been in recent cases), the dye would be deposited in the body of the victim.

Physicians May Prescribe for Themselves

As stated in a previous letter, the dangerous drug regulations which have recently been brought forward by the government render it illegal for a physician to prescribe dangerous drugs for himself. This regulation was made because it had been brought to the notice of the home secretary that physicians who were addicted to cocain and morphin procured considerable quantities by writing prescriptions made out to themselves. But the hardship of this regulation has raised an outcry against it. In the House of Commons, Sir Sydney Russell Wells, physician to the London Hospital, while admitting that certain physicians were drug takers, stated that he was convinced that their number was small. This regulation was ridiculous. It hampered the physician by creating a new offense, and as a preventive it was futile. Drugs must be in his office for cases of emergency, and not one in a thousand did not carry with him a case in which there was a certain quantity of cocain and morphin for emergency use. The prohibition to prescribe for himself in no way affected the physician's power of obtaining a drug if he wished to take it. Owing to the pressure of medical opinion, this objectionable regulation has been withdrawn.

An Objection to the Poisoning of Rats as a Measure Against Plague

In the *Times*, an Anglo-Indian official, Mr. Walter Saise, points out the danger of poisoning rats as a measure against plague. A rat from a plague-infested house is a source of danger when it dies, as the rat fleas leave the cold carcass and search for another warm-blooded host. Before it dies, the plague rat is not a source of danger, as the fleas prefer it to another host. In a successful campaign against plague on the East Indian Railway Company's colliery estate in Bihar in 1904 and 1905, Mr. Saise declared that rewards would be paid only for live rats. Rat traps were served out to all the miners, who were promised one anna (two cents) for each rat caught. They were further told never to kill rats, or to handle any dead ones they might find about their houses. The miners or their children brought the traps, often quite full, to the collecting stations. The cages were immersed in a weak mercuric chlorid solution until the rats were dead. This procedure both drowned the rats and disinfected the cages. The cages were then shaken over small wooden boxes partly filled with jute waste. The dead rats fell into these boxes, and the fleas could be seen snuggling into the dry jute. The box, with rats and fleas, was placed on a shovel and thrown into the furnaces of the colliery boilers. The result was that the plague was stayed. In a population of 12,115, there were only seventeen deaths.

The Need for Public Education on Cancer

At the Royal Society of Medicine, Mr. J. E. Adams introduced a discussion on this subject. He desired to see a society formed for the control of cancer, similar to the societies in existence for combating tuberculosis and venereal disease. The support of the profession must first be obtained. Cancer was on the increase, and the majority of patients applied for medical assistance too late. Physicians were aware of a number of conditions which predisposed to cancer, such as syphilis, chronic degenerative mastitis and unhealed ulcerations of the cervix uteri. Were these treated as energetically as their association with cancer demanded? In any woman over 40, a lump in the breast was ten times more likely to be malignant than simple. Middle-aged men were apt to think that indigestion and hemorrhoids were the inevitable result of a sedentary life, and that drugs would put them right; but the real trouble might be a growth. The public ought to recognize that treatment without examination was not worth paying for, and the profession, that it was not worth doing. The public required enlightenment on the matter, such as was provided by the American Society for the Control of Cancer. In this country little has been done, though some health officers have issued leaflets urging people who had certain symptoms to consult a physician without delay. The British Red Cross Society was prepared to help in the distribution of authoritative intelligence, compiled by physicians on this subject. Mr. Adams proposed these resolutions, which, after discussion, were carried: (1) That it is desirable that the public should be given more information as to the early signs of cancer and the prospects of cure by immediate treatment; (2) that the British Red Cross Society be asked to conduct this publicity campaign by means of lectures and pamphlets; (3) that the Council of the Royal Society of Medicine be requested to nominate a standing committee to supply to the British Red Cross Society information suitable for wide dissemination and the education of the public.

The Danger of Food Preservatives

Dr. Reginald Dudfield, health officer for the metropolitan borough of Paddington, has presented a report in which he draws attention to the widespread use of food preservatives, their varied character, and the extraordinary range in the quantities used by different manufacturers. He points out that all the preservatives discovered to be in use are drugs, for the majority of which the British pharmacopeia lays down limits for use in prescriptions. While admitting that the quantity of any of the drugs used for preserving falls below the maximum dose laid down in the pharmacopeia, it has to

be remembered that (1) some persons manifest an intolerance to certain drugs which can be ascertained only by exhibition; (2) the effect on the human system, and particularly on the digestive tract, of drugs used as preservatives is still an undetermined question; (3) the action of some drugs is known to be cumulative, and (4) sick persons and young children are particularly affected by the majority of drugs used as preservatives. Moreover, it is to be feared that in many instances preservatives are used to disguise incipient putrefactive changes or to counteract the possible results of lack of care in the preparation of the foodstuff. A committee appointed by the government in 1899 found that the usual preservatives were: boric acid, borax (for sausages, potted meats, bacon, brawn), salicylic acid (for jams and temperance drinks), sulphites (for temperance drinks), and formaldehyd (very rarely for temperance drinks). Dr. Dudfield has sent, to a number of health officers, a questionnaire as to the use of preservatives, and has received replies from 109 areas. This table summarizes the principal results:

Commodity	Preservative	Occasion Found	Quantities of Preservative: Maximum Gr. per Lb.	Quantities of Preservative: Minimum Gr. per Lb.
Bacon	Boric acid	45	35.0	2.0
Dried fruit	Sulphur dioxid	22	15.2	1.4
Jam	Salicylic acid	27	10.0	0.07
Margarin	Boric acid	3,522	175.0	Trace
Fish pastes	Boric acid	120	105.0	Trace
Vegetables	Copper sulphate	265	10.2	Trace
Lemonade	Salicylic acid	64	13.1	0.06

PARIS

(From Our Regular Correspondent)

April 13, 1923.

Hospital Associations

An *union hospitalière* of the Northwest, which comprises fifty-two hospital establishments in thirty-two departments of this region, has just been formed. There were already three such unions hospitalières: the Union hospitalière of the Southeast, with headquarters at Lyons, the Union of the Northeast, with its seat at Nancy, and the Union of the Southwest, with its central office at Bordeaux. The fusion of these four unions hospitalières will give rise to the national federation of hospital establishments.

These *unions* are formed between the members of the administrative committees and the personnel of the hospitals, and not between the establishments themselves. The administrative personnel alone is admitted, while physicians are excluded. However, the medical profession has a certain interest in the activities of these groups, since they are called on to examine into "all the questions that are common to the hospitals and the municipal shelters." Among these may be mentioned, primarily, the relations between the physicians and the administrative councils of the hospitals. Furthermore, it is provided that certain articles constituting common needs may be purchased by these unions. It is important that physicians be consulted in regard to these purchases, so that they may, as far as possible, choose the instruments, and, at least in a general way, the supplies, with which they will be called on to work. Among other things, it is planned to establish sanatoriums in high and in moderate altitudes, such as the departments, by themselves, with their limited resources, could not hope to create. Here, too, the opinions of the medical profession should be consulted.

In a general way, the purpose of these unions may be summed up thus: an inquiry into and the protection of hospital interests; a study of all the questions common to hospitals and municipal shelters; securing for the personnel of hospital establishments the right to form associations; the recruiting and the status of the personnel; the establishment of a superannuation fund in which all members of the personnel may participate; cooperative purchases (linen, bedding, etc.); the creation of cooperative societies; the creation of regional hospitals and homes for convalescents; study of the problem of hospital fees, and the creation, for the benefit of hospitals, of a mutual fire and accident insurance fund.

Protection of Young Children in Alsace and Lorraine

The Roussel law, which regulates in France the supervision of children placed for remuneration in ward or as nurslings, has recently been introduced in Alsace and Lorraine. The administrative departments of Haut-Rhin and Bas-Rhin have decided to enlarge the scope of this law and to establish as complete and as perfect a service of child welfare as possible. Their efforts coincide, in a measure, with the enterprises of the Red Cross Society, certain municipalities, health insurance societies and private benefactors; likewise with the Association alsacienne et lorraine de puériculture, the purpose of which is to group together the child welfare societies and to give them a uniform direction and a scientific guidance. The collaboration of all these elements interested in the movements for the protection of childhood, on the one hand, and of the medical syndicates, on the other hand, has resulted finally in the creation of centers of puericulture. These child welfare centers have their own independent administration. They can be created by municipalities, the Red Cross Society, health insurance societies or private industries. Each center becomes a constituent society of the Association alsacienne et lorraine de puériculture, of which it forms a local group and from which it accepts suggestions as to technical management. Irrespective of their origin, these centers should endeavor to interest in their organization the municipalities and all private societies that are concerned with child welfare.

The child welfare centers are charged with the control of the application of the laws pertaining to welfare work among mothers and children—free milk grants and the protection of young children. Besides this work of control, they must endeavor to reach individually every mother and every child that need counsel or help, in order to promote the application of the rules of public health and to emphasize the value of breast feeding. The practical work of the child welfare centers will be directed by a physician, who will have one or more visiting nurses to assist him. The appointment of medical inspectors, the character of their service, and their salaries are regulated by a special agreement between the prefectures and the medical syndicates.

The midwives must be the collaborators of the visiting nurse. The latter will inform the midwives of a district of her intended visit, and will call on them personally. The midwives will call the attention of the visiting nurse to the pregnant women whom the nurse ought to visit. The midwives will communicate to the visiting nurse, on special postal cards furnished them, every confinement at which they have assisted. If the mother is nursing her child, the visiting nurse will pay her the first visit when the midwife ceases her calls. However, the midwife will appeal to the visiting nurse whenever, during her attendance on the mother, difficulties with respect to feeding arise. For every case correctly reported to the visiting nurse, the midwife will receive a fee of three francs from the child welfare center.

Congress on Cancer Research

The central office of the Association française pour l'étude du cancer has decided that a congress on cancer research shall be held in Strasbourg, July 23-25, 1923. These three main topics will be discussed: (1) the experimental production of cancer, by Drs. Borrel, professor at the Faculté de

médecine of Strasbourg; Fibiger, professor at the College of Medicine, Copenhagen; Ishikawa, professor at the College of Medicine, Sapporo, Japan; Murray, director of the Imperial Cancer Research Fund, London, and Pentimalli, of the Institute of General Pathology, Naples; (2) the local and general reactions of the organism to cancer, by Drs. Rubens-Duval, Paris, and Woglom of the Crocker Institute of Cancer Research, New York, and (3) treatment of epitheliomas of the skin and the buccal cavity by radium and roentgen rays, by Drs. Bayet, director of the Institut du radium, Brussels, and Regaud, director of the biologic laboratory of the Institut du radium, at the University of Paris.

A Municipal Subvention to the Paris Faculty of Medicine

The municipal council of Paris has voted an annual subvention of 3,000 francs to the Paris Faculté de médecine, to be used toward the establishment of a professorship charged with theoretical and clinical courses in orthopedic surgery as applied to adults who are suffering from industrial accidents, war mutilations or merely ordinary infirmities.

Personal

Prof. Jules Bordet, director of the Pasteur Institute at Brussels, has been appointed foreign associate member of the Academy of Sciences, Paris.

BELGIUM

(From Our Regular Correspondent)

April 16, 1923.

Increased Supply of Radium

Since the discovery in the Congo region of important radioactive deposits, Belgium has acquired almost a monopoly of the radium market. Since the first discoveries of uranium in the Katanga copper mines in 1920, numerous researches carried out by the Union minière have made it possible to increase the output. The mines at Chinkolwbe (Kasalo) furnish the mineral substances from which the radium is separated in the new works at Oolen, near Antwerp, which are affiliated with the Société Générale Metallurgique of Hoboken. The Union minière has promised to reserve for the use of Belgium the first 8 gm. of radium that are produced at Oolen, so that the metal may be immediately distributed among the various hospitals and sanitary establishments throughout the country.

The Antivivisectionists

Many medical men and men of science have been waging an energetic fight for vivisection. A voluminous questionnaire covering a series of questions in regard to this method of research has been sent to all the physicians of Belgium. The Antivivisection League hopes in this manner to learn the opinions of the medical profession, and thus to be in a position to formulate definite conclusions based on public opinion. Also the four universities of Belgium have become interested in the question, and each university has elaborated a report. At present it may be affirmed that the general opinion is that vivisection is an experimental method of the greatest experimental value, and that it cannot be abandoned. It goes without saying that all exaggerations which, under color of experiments, allow the commission of veritable crimes against unanesthetized animals should be suppressed.

There are indications that the medical profession will not withhold its interest in the question and, possessing, as it does, a full comprehension of the usefulness of the method, will be willing to consider the adoption of proper regulations.

A Tendon Transplantation Procedure in Pes Cavus

Before the Belgian Surgical Society, Dr. Delchef discussed the difficulties of the treatment of pes cavus owing to the obstacles in the way of reduction (lack of bony support, large mass of muscles, persistence of the paralysis causing the condition). Also, nonoperative reduction, with or without subcutaneous myotomy, often fails to achieve good results. Delchef presented a case in which he obtained a good result by means of his procedure, a modification of the Witeck method; Witeck first brings the pes cavus into a marked equinus position in order to reduce the calcaneum, and then does a tendon transplantation to maintain the result. Delchef, in the case referred to, changed this procedure as follows: A circular incision was made around the sole of the foot; extensive resection of the plantar aponeurosis was done; through buttonhole incisions over the malleolus, the tendons of the peroneus longus and flexor longus hallucis were detached from their insertions, drawn across the calcaneum and sutured to the periosteum. The foot was immobilized in a forced equinus posture by means of a plaster cast, for two months. When the cast was removed, manual reduction was very easily accomplished. At the present time both feet are almost flat, and the patient can rise vigorously on his toes. In this position the contraction of the transplanted tendons is easily visible.

Revision of the Medical Curriculum

The commission appointed to revise the medical curriculum, to whose deliberations I have already had occasion to refer, is continuing its investigations, and, at a recent meeting of the Academy of Medicine, it succeeded in having this resolution adopted which gives expression to some of the principles on which the elaboration of the proposed new medical curriculum will be based:

> The instruction in the pathologic sciences, which form the central basis of the examination for the doctorate, should comprise at least three and a half years of study; that is, at least half of the total duration of the medical course. In order to attain this end, the curriculum should be simplified by a considerable reduction in the number of hours given to instruction in botany, zoology, mineralogy, geology, logic, ethics and psychology.

BUENOS AIRES

(From Our Regular Correspondent)

March 21, 1923.

Visit of American Surgeons

March 16 we welcomed the American surgeons who arrived on the *Van Dyck*. During their five-day stay, the travelers visited the hospitals and attended operations performed by Drs. Arce, Finochietto, Ceballos, Valdés, Solé, San Martín, Copello, Medina and others. They made a hasty tour of the medical school, then beginning its annual courses. In the afternoon of March 17 a meeting was held at the medical school at which the visitors donned their gowns and caps. As the costume is not worn in this country, this lent a certain color to the ceremonies. Dr. F. H. Martin nominated Dr. M. Herrera Vegas as an honorary member of the college, and Dr. McDougall welcomed the nominee amid much applause. Then Dr. Young delivered a lecture on the advantages of peritoneal approach in prostatectomy, and Dr. Case spoke in Spanish on the use of radiology in postoperative treatment.

The delegates attended excursions to Tigre and the race course, and took a sightseeing trip through the city. The Society of Radiology held a special meeting in honor of Dr. J. T. Case. Finally, on the 21st, the delegates were received in audience by the president. That evening they left for Montevideo.

Antituberculosis Campaign

The Buenos Aires Public Assistance has added two more Calmette tuberculosis dispensaries to the four previously established. The last will be in charge of Drs. Rodolfo Vacarezza and Luis Rabufetti, respectively. It is planned to

open ten more such dispensaries at public bath-houses and sanitary stations. Vaccination stations will also be established in the same premises.

Plague

As happens every year at harvest time, some isolated cases of plague have been reported from rural districts. There was an outbreak in the race course district at Rosario, but it was eradicated through an energetic campaign by the local health authorities. In the other end of the country, at Jujuy, there were also reported several sporadic cases, and one death. The national health authorities have pushed the anti-rat campaign at all ports. They have also asked congress to extend their authority to the whole country, promising to put an end to the disease which every year causes isolated outbreaks.

Cancer Institute

The new cancer institute is showing considerable activity under the leadership of Dr. A. H. Roffo. The basic work is concerned with deep roentgen therapy and the use of a preparation of eosin-selenium-rubidium, the formula of which is kept secret. Dr. Beatti published an article recently in *La Semana Médica*, attacking this method.

Gift of a Maternity Hospital

There has just been opened at Rio Cuarto a maternity hospital, being a gift of Mr. and Mrs. Gardey-Kowak, who spent 200,000 pesos (about $73,000) on the building and who, in addition, will bear the maintenance expenses. The hospital will admit both free and pay patients. The amount collected will be also spent for maintenance. Technical supervision has been entrusted to Dr. M. Noroña, assisted by a licensed midwife. This philanthropic spirit deserves mention, since, while not uncommon in this country, it is not often exhibited to such advantage.

PRAGUE

(From Our Regular Correspondent)

April 4, 1923.

Joseph Thomayer

Prof. Joseph Thomayer celebrated his seventieth birthday, March 23. The echo which this occasion found in the daily and professional press demonstrated the popularity which this founder of the Czech school of internists enjoys in public and professional estimation. Joseph Thomayer was born in Trhanov, a small village in southern Bohemia. During his student days he was active in literary circles and a close friend of many Czech writers. He graduated at Prague in 1876; and became instructor of pathologic anatomy under Professor Klebs. He studied surgery in Germany, but his life career was determined by his work under Professor Charcot in Paris. On returning to Prague in 1880, he became assistant to Professor Eiselt, and since has devoted himself to internal medicine. It was through his energy that the Scientific Association of Czech Physicians and the journal published by that body became popularized among the medical profession. After another trip to London, he became, in 1883, assistant professor at the Prague Medical faculty, where he remained throughout his life. In 1886, he published an "Introduction to the Practice of Medicine," which became the fundamental book for Czech medical practitioners. At the same time he became chief of the Prague "policlinic," an institution exclusively for ambulant patients. During the sixteen years which he spent in this institution he educated a great number of medical men. Although the policlinic was located in a poor building and was badly equipped, the fame of Professor Thomayer was so great that students considered it an honor to be admitted to his sessions. His lectures were not obligatory for the students, yet he always had the largest attendance of any professor. His lectures were fascinating both in content and in form; he was a master in the art of making lectures interesting to students, and knew how to impress on them the relative values of clinical signs. In 1902, he became chief of the institute for internal medicine in Prague and brought it to its eminence. There he educated Drs. L. Syllaba and J. Pelnář who now hold the chairs of internal medicine in Prague. Dr. R. Vanysek, who holds the chair of internal medicine at the newly established medical faculty in Brno, is also one of his pupils. His rich clinical experience has been preserved in the "Pathology and Therapy of Internal Medicine," which has become the standard textbook of this branch of medicine for Czech students. Last, but not least, it should be mentioned that even as professor of internal medicine he continued his interest in literature. He published several books of popular stories, and it was certainly partly due to this ability that he was always such an interesting lecturer and teacher. In 1921, he left the chair feeling that the time had come for younger people to succeed him. The Czech medical profession honored on this occasion a man who has the same significance for Czech medical sciences that Dr. William Osler had for Anglo-Saxon medicine.

Social Medicine

The annual meeting of the delegates of the Czechoslovak Association of Physicians, which took place in Prague, March 11, defined exactly the standpoint of the organized medical profession toward the new trends of social medicine. The after-war period brought about a rapid development of all sorts of dispensaries, health centers, etc., and caused some uneasiness to the members of the medical profession, who look on all such institutions with suspicion. Undoubtedly, improper management, in many instances, caused misunderstandings between the institutions and the physicians. The younger generation of physicians, which is more progressive and more familiar with the modern problems of social medicine, has worked out rules and regulations for the management of preventive dispensaries and health centers, which were submitted in the form of a resolution to the meeting of the delegates a year ago; but the resolution was defeated by the conservative delegates. It was only after a year of educational work with public opinion that the resolution, with but slight modifications, was put through at the last meeting. The resolution defines dispensaries as places for modern diagnosis, and institutions for sanitary and social prophylaxis. The dispensaries are open to everybody. It is also the duty of members of the association to support and cooperate with the institutions. All the functions of private health and social agencies are honorary, and should not be paid for. The rules contain also detailed instructions for the salaried officers of preventive dispensaries. Only regular physicians, selected by open competition, should be employed in these institutions. Treatment should be given not at all, or only exceptionally in the case of the poor. Members of insurance associations should not be considered as poor. In Slovakia and Ruthenia, where the situation is less organized and more primitive, treatment should be given according to circumstances. The resolution finally does away with the negative position in which the organized medical profession has stood as regards the new movements in social medicine; these resulted in many misunderstandings in public health administration.

Postgraduate Courses

Dr. F. Hamza of the Brno medical faculty will organize postgraduate courses for physicians in social medicine in cooperation with the ministry of health. The course will consist of a series of lectures during a period of six weeks, followed by practical experience in different public health

institutions for four and one-half months. The ministry of health is offering ten scholarships for physicians who desire to participate in the course.

BERLIN

(From Our Regular Correspondent)

March 31, 1923.

Incidence of Rickets in Large Cities

As the result of the food scarcity during the war, rickets became widespread and led to grave crippling among the children. Owing to the effects of the present distressful economic situation, many new cases have developed, and have added to the previous injuries. Professor Engel in Dortmund gave recently some useful statistics on the incidence of the disease. Of 1,384 children in Dortmund belonging to the 2-10 age group, 594, or 42.8 per cent., were suffering from rickets. The percentage of severe types of rickets was very large, approximately 21.3 per cent. of those affected, while 40 per cent. were of the moderate type. On an average, 10 per cent. of all children examined presented severe or extremely severe types of the disease. That is an extraordinarily high percentage, which is of serious moment in view of the sequels of the severe types of the affection. In an inquiry into the causes of rickets, the accompanying table, which appears to establish a connection between unfavorable housing conditions and rickets, may be of value.

Housing Conditions in Relation to Incidence of Rickets

Number of Rooms to Family	Number of Persons to One Room	Incidence of Rickets Among Children (Per Cent.)	In Relation to One Room
1	3.90	70	0.95
2	2.41	44.18	0.39
3	2.06	30.56	0.26
4	1.82	46	0.23
5	1.23	25	0.07
6	1.08	33.50	0.08

Infant Mortality in Previous Centuries as Compared with the Present

Hanssen in Kiel reports the results of his investigations on the infant mortality of Schleswig-Holstein in previous centuries, as shown by church registers. In several communes, the mortality was formerly lower than it is today. For instance, Eichede, with a present population of 2,900, had an infant mortality of 12 per cent. during the period from 1677-1722, whereas, during the period from 1900-1912, the mortality was 14.5 per cent. In other localities, and, strange to relate, in the very districts that today also show the highest mortality rates, there was an exceedingly high infant mortality during earlier periods. For example, in Wesselburen, province of Ditmarsh, the mortality rate in 1872 was 63.9 per cent., while in 1904 it was 18.3 per cent. The low rates are commonly ascribed to the wide use of breast feeding, and the high rates to epidemics—chiefly smallpox. It can be shown, however, that in former centuries the "summer peak" of infant mortality was not in evidence. For the present epoch, Hanssen was able to show that the infant mortality, as the especially critical year 1917 has proved, can be reduced by increasing the number of breast-fed infants, while in other localities (for example, in Mecklenburg), where the percentage of breast-fed infants is smaller, a correspondingly increased mortality has been established.

Tuberculosis Among Village School Children in Eastern Brandenburg

G. Hartwich, during his year's term of office as medical examiner of schools in a district of eastern Brandenburg, examined nearly 7,000 school children. He found that 14.7 per cent. of the boys and 15.2 per cent. of the girls presented suspicious signs of tuberculosis. Pronounced signs of tuberculosis or scrofula were noted in 4.2 per cent. of the boys and 3.8 per cent. of the girls. In comparing the different years, it was apparent, as has been noted elsewhere, that, in more recent years, there was a greater tendency to tuberculosis than formerly. In the period from 1913-1916, 17.8 per cent. of the boys and 18.4 per cent. of the girls showed signs of tuberculosis, while pronounced evidence of tuberculosis or scrofula was noted in 6.3 per cent. of the boys and 4.4 per cent. of the girls. During the period 1908-1912, however, there were in the first group only 10.8 per cent. of the boys and 12.4 per cent. of the girls, and in the second group, 3.7 per cent. of the boys and 3.5 per cent. of the girls. From these statistics we may assume that, in from ten to fifteen years, we may expect a three or four fold increase of pulmonary tuberculosis unless energetic action is taken to prevent it.

Opening of a School for the Training of Public Welfare Workers

In common with the Empress Augusta Victoria House, a government institution for the combating of infant and child mortality, the merger of the central federations of social hygiene has decided to open a school for the training of assistants in public health and public welfare work. In establishing this new training school, the thought uppermost in the minds of the founders has been that by far the greater portion of public welfare work has to do with public health, and that it is therefore desirable to make public health work the main consideration in the training of public welfare workers. It goes without saying that the young women attending the new institution will likewise receive training in the educational and the purely economic aspects of public welfare administration, so that they may be equipped with not only the theoretical but also the practical knowledge needed in their work. The aim is therefore to train persons who will be able, when and where it is necessary—more particularly in the rural districts—to attend to all branches of welfare work. In the training of the institution, the main emphasis will be placed on the most important practical features of the work. The institution plans to supply also another need by establishing short training and continuation courses for nurses, welfare workers and administrative officers for welfare work. At the end of a two-year course, the last semester of which will be devoted more especially to practical training, students will be admitted to a state examination, and on receiving their diploma their names will be placed on a list of eligibles for government positions.

Marriages

HOSEA WEBSTER MCADOO, Berkeley, Calif., to Mrs. Maude Thormona Wentworth of Alexandria, Va., May 1.

CALVIN L. LONGSTRETH, Creston, Iowa, to Miss Carmen M. Post of Des Moines, at Cedar Rapids, recently.

WILLIAM MASON, Fall River, Mass., to Miss Nancy Campbell of Utica, N. Y., April 7.

JOHN G. SCIFRES, Indianapolis, to Miss Marguerite Schuck of Bridgeport, recently.

FRANK OLIVER NICHOLS to Miss Maybeth Dobbs, both of Etowah, Tenn., May 2.

GEORGE W. SMALLWOOD to Miss Caroline Ruth Bain, both of Boston, April 13.

FREDERICK E. GLAUNER, Marine, Ill., to Miss Morgan of Urbana, recently.

JOHN H. REGAN, Chadron, Neb., to Miss Irene Bennett of Omaha, April 26.

Deaths

James Macfarlane Winfield ⊕ Brooklyn; Bellevue Hospital Medical College, New York, 1882; emeritus professor of dermatology, Long Island Medical College, Brooklyn; member of the New York Pathological Society; past president of the Kings County Medical Society; the New York Dermatological Society, and the American Dermatological Society; aged 63; died, April 22, of injuries sustained in an automobile accident.

Louis Laberge, Montreal, Que., Canada; Montreal School of Medicine and Surgery, Montreal, 1874; formerly chief medical officer for the city of Montreal; represented Montreal at the International Congress of Hygiene in Paris, 1889; at the Medical Convention, Glasgow, Scotland, 1908, and at the Tuberculosis Congress in Washington, D. C., in 1908; aged 72; died, recently.

Lea Marion Murphy, South Pasadena, Calif.; Northwestern University Medical School, Chicago, 1911; member of the Medical Society of the State of California; formerly a practitioner in Minnesota and Illinois; specialized in ophthalmology, otology, laryngology and rhinology; aged 38; died, April 18, following a long illness.

Alexander MacKay, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1895; served with the Canadian Army Medical Corps, in France, during the World War; formerly chief medical inspector of the Toronto Public Schools; inspector of provincial hospitals for the dominion of Canada; aged 53; died, February 18.

Frank Ward Ross, Elmira, N. Y.; Medical Department of the University of the City of New York, New York, 1883; veteran of the Spanish-American and World wars; formerly county coroner, and member of the board of education; at one time on the staff of the Arnot-Ogden Memorial Hospital; aged 63; died, April 21.

John Kelliper Tretton, Rochester, N. Y.; Hahnemann Medical College and Hospital of Philadelphia, 1888; at one time city physician; formerly on the staffs of the Hahnemann Hospital (Highland Hospital) and the Homeopathic Hospital; aged 63; died, April 9.

Francis Emory Asbury, Ashboro, N. C.; Medical College of the State of South Carolina, Charleston, 1876; member of the Medical Society of the State of North Carolina; past president of the Montgomery County Medical Society; aged 77; died, April 11.

Elizabeth Frances Kearney, Los Angeles; Keokuk Medical College, Keokuk, Iowa, 1892; served as instructor with the American Red Cross, during the World War; formerly a practitioner in Chicago; aged 61; died, April 17, of cerebral hemorrhage.

Howard Charles Emons ✠ Chicago; Chicago College of Medicine and Surgery, 1917; served in the M. C., U. S. Army, during the World War; on the staff of the U. S. Marine Hospital No. 5, where he died, May 2, of pneumonia, aged 32.

Oscar F. McNabb, Whitwell, Tenn.; Chattanooga Medical College, Chattanooga, 1897; member of the Tennessee State Medical Association; aged 52; died, April 12, in Birmingham, Ala., of a bullet wound, inflicted, April 11, by a stranger.

Eugene S. Carroll, Center, Texas; University of Louisville Medical Department, Louisville, Ky., 1893; member of the State Medical Association of Texas; formerly county health officer; aged 57; died, April 10, following an operation.

William Henry Hawkins ✠ Lewiston, Me.; Jefferson Medical College of Philadelphia, 1893; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 52; died, April 14, following a long illness.

Clinton Edward Powell, Polo, Ill.; Marion-Sims College of Medicine, St. Louis, 1897; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 49; died, April 17, of chronic nephritis.

Samuel Lile, Lynchburg, Va.; University of Louisville Medical Department, Louisville, Ky., 1888; member of the Medical Society of Virginia; aged 62; was found dead in bed, April 15, of cerebral hemorrhage.

James Worthington Parshall, Uniontown, Pa.; University of Maryland School of Medicine, Baltimore, 1887; member of the Medical Society of the State of Pennsylvania; aged 60; died, April 14, of pneumonia.

William Thompson Burch, Washington, D. C.; Medical Department of Columbian University, Washington, 1894; member of the Medical Society of the District of Columbia; aged 52; died, April 10.

Robert N. McMillen, Iola, Kan.; Louisville Medical College, Louisville, Ky., 1875; member of the Kansas Medical Society; aged 73; died, February 23, of cerebral hemorrhage, at Kansas City, Mo.

Joseph Leonard Norman Aus, Deer Park, Wis.; Illinois Medical College, Chicago, 1904; member of the State Medical Society of Wisconsin; aged 38; died recently, of acute articular rheumatism.

Andrew Jackson Boswell, South Bend, Ind.; Fort Wayne College of Medicine, Fort Wayne, 1882; Bellevue Hospital Medical College, New York, 1890; aged 68; died, April 19, of heart disease.

Roswell Barnum Raleigh, Los Angeles; Minneapolis College of Physicians and Surgeons, Minneapolis, 1894; formerly a practitioner in Iowa; aged 58; died, April 13, of heart disease.

Horace M. Stanley, Creston, Iowa; Ensworth Medical College, St. Joseph, Mo., 1907; member of the Iowa State Medical Society; aged 43; died, April 21, of cerebral hemorrhage.

Timothy Hartigan, Chicago; College of Physicians and Surgeons, Chicago, 1896; aged 62; was found dead in bed, April 23, of organic heart disease and chronic nephritis.

Thomas B. Rankin, Odon, Ind., Medical College of Indiana, Indianapolis, 1880; member of the Indiana State Medical Association; aged 73; died, March 13, in Scotland.

Benjamin Thompson ✠ Tama, Iowa; Eclectic Medical College of Pennsylvania, Philadelphia, 1870; at one time mayor of Tama; aged 79; died, April 22, of senility.

Joseph Benson Kelsey, Deport, Texas; Vanderbilt University Medical Department, Nashville, Tenn., 1889; aged 67; died suddenly, April 10, of heart disease.

Lot Snoddy, Chicago; Jefferson Medical College of Philadelphia, 1880; member of the Illinois State Medical Society; aged 65; died suddenly, April 24, of heart disease.

David Monroe Buchan, Wray, Ga.; Georgia Eclectic Medical College, Atlanta, 1878; formerly member of the state legislature; aged 75; died, March 16.

Ernesto Conte Loffredo, Jamestown, N. Y.; Eclectic Medical College of the City of New York, New York, 1906; aged 47; died, March 14, of pneumonia.

Joseph E. Durr, Augusta, Ga.; Medical College of the State of South Carolina, Charleston, 1880; Confederate veteran; aged 82; died, April 16.

George W. Varner ✠ Evansville, Ind.; Kentucky School of Medicine, Louisville, 1886; on the staff of St. Mary's Hospital; aged 61; died, April 20.

Helen Louise Story, Boston; Tufts College Medical School, Boston, 1897; aged 62; died, February 15, of chronic endocarditis and cardiac asthma.

John Edward Ottaway, Rochester, N. Y.; University of Michigan Medical School, Ann Arbor, 1886; aged 61; died, April 12, of heart disease.

Harvey Edwin McIntire, Auburn, Wash.; Bellevue Hospital Medical College, New York, 1884; aged 66; died, April 2, of cerebral hemorrhage.

Robert E. Tolleson, Sperry, Okla.; University of Arkansas Medical Department, Little Rock, 1898; aged 47; died, February 13, of pneumonia.

Charles S. Lindsay, Pittsburgh; Western Reserve University School of Medicine, Cleveland, 1879; aged 66; died, April 10, of angina pectoris.

Walter T. Brodbeck, Beverly Hills, Calif. (licensed, years of practice); formerly a practitioner in Ohio; aged 60; died recently.

Jacob A. Thomas, Bybee, Tenn.; Chattanooga Medical College, Chattanooga, 1896; died, April 16, of cerebral hemorrhage.

Dorwin A. Cookingham, Topeka, Kan.; Kansas City (Mo) Homeopathic Medical College, 1889; aged 73; died, April 14.

Jules Frederick Roth, Los Angeles; Baltimore University School of Medicine, Baltimore, 1892; aged 60; died, April 11.

J. K. L. Norvell, Beechgrove, Tenn. (licensed, Tennessee, 1889); aged 73; died, April 16, of cerebral hemorrhage.

Henry Newton Speer ✠ Philadelphia; Jefferson Medical College of Philadelphia, 1893; aged 53; died, April 19.

Annie M. Young, Chicago; Hahnemann Medical College and Hospital, Chicago, 1889; aged 65; died, April 13.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

FLEISCHMANN'S YEAST NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

In March, 1921, the Council took up the consideration of Fleischmann's Yeast on account of the extensive and extreme therapeutic claims which were made for this preparation. Since then the Council has given much attention to the subject of yeast therapy. The chairman called in consultation eminent students of nutrition and clinicians qualified to speak with authority on questions of nutrition, dietotherapy and pediatrics. The object was to determine whether the effects of yeast and yeast preparations on animals deprived of food containing vitamin B gave promise of having important therapeutic application. After a comprehensive discussion it was concluded that there is little likelihood that the administration of yeast or yeast preparations representing vitamin B concentrates will be of therapeutic value in many cases for which they are advertised. The view that there was no satisfactory evidence in favor of the therapeutic administration of yeast in most conditions for which it is advertised was concurred in by many of those who have contributed to the laboratory reports of the action of yeast or its vitamin in experiments on animals previously deprived of the growth-promoting constituents present in many foods and in yeast.

As a result of its inquiry, the Council adopted (THE JOURNAL, April 15, 1922, p. 1146) the following principles to guide in the consideration of yeast preparations and vitamin B concentrates:

1.—The claim that deficiency of vitamin B and diseases resulting therefrom are common conditions in the United States is not at this time supported by adequate, acceptable evidence.

2.—The claim that yeast preparations or extracts are, in principle or in general, essentially more effective or more practical or more available means of administering vitamins than the commonly available vitamin-containing foods is not at this time supported by adequate, acceptable evidence.

3.—The claim that therapy with yeast or yeast preparations has as yet more than an experimental status is not at this time supported by adequate, acceptable evidence.

Further, the Council has adopted (THE JOURNAL, July 8, 1922, p. 135) an article on yeast preparations for inclusion in New and Nonofficial Remedies in which, among other things, it is pointed out (1) that the opportunities to obtain vitamin B through the customary foods are so abundant as to make the demand from special sources of the vitamin limited at the present time; (2) that yeast is a mild laxative, but that the cause of this laxative action has not been determined so far as one can learn; (3) that the supposed beneficial effect of yeast administration on furuncles, acne, etc., lacks substantiating evidence; (4) that such laxative effects may be expected from an anticonstipation agent; (5) that it is not clear whether live cultures of yeast may be used to change the intestinal flora, if indeed such reaction becomes desirable, and (6) that many of the conditions for which yeast and yeast preparations have been proposed are so variable in their clinical courses and so likely to show improvement without special treatment that the elaborate claims that are made for yeast therapy for somewhat indefinite disorders must be largely discounted.

Many advertisements for Fleischmann's Yeast are misleading in that they tend to create the belief that many diseases are prevented or cured by its use. Advertisements addressed to the medical profession, through one-sided quotations, are likely to lead physicians to believe that the efficacy of yeast therapy in many conditions has been established. Advertisements addressed to the public are bound to create the opinion in the mind of the lay reader that reliance may be placed on yeast in many conditions which call for therapeutic treatment, the neglect of which may often lead to serious and even fatal consequences.

A booklet which is offered "free, to physiological chemists, physicians and hospitals," the phraseology of which creates the impression of being scientific and conservative in tone, asserts that "dentists have used yeast to advantage in pyorrhea, supplementing the necessary local treatment," whereas it has been generally acknowledged that internal medication has not been found to influence the course of pyorrhea. It is asserted in this booklet that a "frequent cause of general debility is lack of a sufficient quantity of vitamin B in the diet." This is contrary to the conclusions arrived at by the Council, as stated under (1) in the report quoted above from THE JOURNAL of April 15, 1922.

Fleischmann's Yeast is advertised directly to the laity for the relief of boils:

"For pimples or boils eat 1 to 3 cakes of Fleischmann's Yeast a day."

The patient who treats himself for boils in this manner may later die of a carbuncle as the result of the neglect of proper treatment. Many of the advertisements cite experiments of well-known physicians who reported that sixty-six patients improved, or were cured, during the use of Fleischmann's Yeast in a total of seventy-six patients suffering with furunculosis, acne vulgaris, acne rosacea, constipation, gastro-intestinal catarrh, intestinal intoxication, eczemas, arthritis deformans, psoriasis, erythema and urticaria, bronchitis, urethritis, pruritus, folliculitis, conjunctivitis, duodenal ulcer and swollen glands. It is not at all remarkable that skilled physicians could choose so many patients who were suited for treatment by almost any means, for it is very well known that an equal number of patients suffering from these diseases could be chosen who would improve without any medication whatever, provided that suitable hygienic and dietary measures were observed. On the other hand, there is no evidence that Fleischmann's Yeast yields any better results in the majority of patients suffering with these disorders than are obtained with exactly the same treatment minus the yeast.

One advertisement contains the following:

"You who do the work of the world in the sweltering heat of the summer need food that nourishes but does not overheat. Fleischmann's Yeast added to your diet builds vitality, power and endurance. Eat two to three cakes a day and see how they increase your ability to withstand summer heat. You will also desire less of the rich, heat-producing foods that make you uncomfortable in your summer work."

If this means anything it means that Fleischmann's Yeast contributes energy, in important amounts, to those who do hard work. A cake of yeast weighs half an ounce and contains protein, fat, and glycogen sufficient to yield approximately 12 calories, or less than one-half of one per cent. of the energy requirement of one who does hard work; yet yeast is advertised as an ideal food. It might as well be argued that as coffee will cause a little child to "desire less of the rich, heat-producing foods that make you uncomfortable in your summer work," one would be justified in recommending an abundance of coffee for a little child!

The statement that "People who are adding Fleischmann's Yeast to their daily diet find that their body functions are kept normal and regular," is manifestly incorrect. It is general and inclusive. It does not say that some people find this to be the case, but it makes the comprehensive and inclusive statement that, in general, those who add it to their diet obtain this result. If it were true, then no one who added the yeast to the diet would become ill. Such a statement is obviously absurd. If, as claimed, it was made by a prominent physician, then, evidently, even prominent physicians may make careless statements.

An example of the misleading character of the advertisements for Fleischmann's Yeast without direct falsehood is afforded by the following:

"When the plane of metabolism first must be raised.—Hundreds of experiments in animal nutrition have proved the great value of yeast in the growth-producing dietary. One of the most striking descriptions

of its importance is given by a man pre-eminent in the field of physiological chemistry: 'A scrawny, lethargic animal, rapidly dwindling in size, with unsleek coat and evident malnutrition, will completely change its appearance and responses in a few days at most on a diet unchanged except for a tiny bit of yeast.'"

That statement is not deliberately false, but taken without the context it is false. The previous diet of the "scrawny, lethargic animal" had been deliberately chosen for experimental purposes with a view to depriving the animal of one constituent which is present in a great variety of foods—and in yeast. One might conduct wholly analogous experiments in which anemic animals were deprived of food containing iron (rice and sugar, for instance, are free of iron) and by the addition of almost any suitable food known to contain iron, he could in a short time cause striking changes in the animal's condition. The advertisement is misleading in that it gives the impression that yeast is essential for this remarkable change in the condition of the animal. As a matter of fact yeast is merely one of a large number of the commonest articles of the daily diet that contain this vitamin.

The Council voted to refuse recognition to Fleischmann's Yeast (1) because it is advertised by means of unwarranted and misleading therapeutic claims and (2) because it is advertised to the public with unwarranted therapeutic claims that might become a detriment to the public health.

Correspondence

INTRAPERITONEAL INJECTION OF CITRATED BLOOD

To the Editor:—There is no doubt that the intraperitoneal method of giving citrated blood is unnecessary for some men. For the same reason, I very much doubt the ability of the average man successfully to expose and utilize the median cephalic vein in the new-born.

The mere fact that Helmholz recommends the sinus route; Robertson, the internal saphenous vein; Falls, the jugular vein; and Sidbury, the umbilical vein shows that difficulties have been encountered.

The method was not intended as a substitute for Dr. Lewisohn's excellent pioneer work, but only as an addition of possible merit. I have never used the intraperitoneal route in hemophilia neonatorum, for I have found whole blood intramuscularly a satisfactory therapeutic agent. However, it is felt that this means of approach may be used. I know of no scientific reason why citrated blood in the peritoneal cavity should be dangerous, "especially in the new-born infant."

DAVID M. SIPERSTEIN, M.D., Minneapolis.

"THE INTRACUTANEOUS GUINEA-PIG TEST FOR HUMAN SUSCEPTIBILITY TO DIPTHTHERIA"

To the Editor:—In THE JOURNAL, April 7, is a communication from Dr. Zingher, criticizing rather forcefully my paper on the intracutaneous guinea-pig test for human susceptibility and immunity to diphtheria. Merited criticism should be accepted gracefully, and I am free to admit that the use of my name in association with the test does not have the appearance of good taste; however, there were reasons besides vanity that seemed at the time of the first printed use of the term (on forms for the transmission of specimens) to weigh against the selection of any other. These were, the early local use of the name, the confusion with other laboratory examinations which immediately occurred, and the apparent necessity, since the test was for general use by the profession, of deciding between various cumbersome designations, such as "guinea-pig test for diphtheria immunity and susceptibility," or even just "diphtheria susceptibility reaction," the latter of which might do in the laboratory but would be too indefinite for general use. However that may be, I am at least open to no more serious accusation than an error of good form.

Dr. Zingher's statement in certain particulars will, if left unchallenged, leave the impression that the test described by me: (*a*) is an application of his modification of Römer's method; (*b*) is a crude application; (*c*) is a procedure intended for the same uses as his modification; (*d*) is subject to "various sources of error that may so easily creep in," and (*e*) is less reliable than the Schick test, all of which claims are not in accord with the facts, as I shall immediately show.

Römer's method of estimating the antitoxic content of serums was devised to take the place of the lethal test on guinea-pigs, whenever, in manufacturing and experimental work, the strength of antitoxins was to be found. It was never suggested as a means of determining natural immunity to diphtheria, as in the Schick test, and would not have been suitable for this purpose for various reasons. The same may be said of Zingher's modification of Römer's method. Römer's test never came into general use for the reason that it was worked out on a basis that did not admit of sharp, uniform and unequivocal results; too much depended on the personal equation of the users. Zingher's was in some respects better, but he perpetuated the same fault: a criterion of reaction that was dangerously indefinite. Doubtless, Dr. Zingher's opinion that my test is subject to "various sources of error that may so easily creep in" is based on experience with his own test.

A careful reading of both Dr. Zingher's article (*J. Infect. Dis.* **19**:557 [Oct.] 1916) and mine (THE JOURNAL, June 10, 1922, p. 1782; March 17, 1923, p. 748) will show any one that my test is based on Römer's observation of the uniformity of reaction of the skin of the guinea-pig to diphtheria toxin in varying amounts, and on his application of this to the determination of small amounts of antitoxin in horse serum. To this extent it is a modification of Römer's test, as I clearly indicated in my first paper. In the same paper I also gave credit to Dr. Zingher for having previously modified Römer's method, although such reference was not required, as there is nothing in common in the use and application of the two procedures. I also called attention to the fact that my modification was the first application of a skin test in guinea-pigs for the detection of natural immunity in the human subject.

The statement that the test is a "crude application" of his own test is unwarranted. It is true that both modifications depart from Römer's test in that they use toxin on the standard L+ basis, but the plan is very different and the criterion of reaction totally different. My modification is so much simpler that it is applicable for general laboratory use for the purpose in view, which is not true of Zingher's test, as may be learned by referring the decision to any laboratory worker outside special research institutions, such as that in which Dr. Zingher labors. That this is true may also be surmised from the fact that my modification is already in use in three laboratories that I know of, besides its place of origin, whereas I am unable to find anywhere any evidence that Dr. Zingher's method has ever been adopted by any one, even for the purpose designed by him; certainly not for the routine test for natural immunity, preparatory to the administration of toxin-antitoxin. The relation of the two tests to each other and to the original of Römer is comparable to the relation between the test of Kolmer and of Craig to each other and to the original Wassermann test.

Leaving aside all quibbles as to differences or resemblances in technic, I believe my method has claims to simplicity, practicability, accuracy and originality of application that merit its separate identification and its general adoption for the purpose for which it is designed, i. e., the accurate determination of the immune status as regards diphtheria, of small groups of individuals, particularly those who are protein sensitive, and for the convenience of physicians who are not skilled in the use of the Schick test.

I will answer the claim that my test is not as reliable as the Schick test by referring to my two papers on the subject, in which certain errors in the interpretation of the Schick test are described, and further by asserting my entire willingness to demonstrate publicly to a gathering of medical men, and particularly immunologists, that my test, based on Römer's work, is *not* subject to the vague and unstated errors feared by Dr. Zingher, and *is* more accurate than the Schick test. Furthermore, I challenge any one to show how a false negative or a false positive result can be obtained through any cause inherent in the test.

W. H. KELLOGG, M.D., Berkeley, Calif.

"SUPERIOR METHOD OF STAINING TUBERCLE BACILLI"

To the Editor:—In THE JOURNAL, April 14, p. 1092, Dr. Peter Mjedloff requests some further information concerning a bacillary stain in general use at the Kula Sanitarium. The stain to which he refers apparently is the stain designated as Much's granular stain. The stain which is in use at the sanatorium is identical with Much's stain, differing, however, in the fact that the Lugol's solution is used first on the prepared smear and this is then followed by the gentian-violet stain. After destaining with acid in the usual way, counterstaining in Much's technic is by means of a 1 per cent. methylene blue solution, although any other counterstain or dye, such as pyronin, may be used. In the usual staining technic this method of staining the tubercle bacilli is not considered superior to the carbolfuchsin or Ziehl-Neelsen method for detecting the bacilli if in their integrity. It is only when the bacilli have undergone retrogressive changes, are dissociated, that Much's granular stain is more advantageous. The bacillary granules are not stainable with the carbolfuchsin stain but are definitely stainable with the Lugol-gentian violet stain.

JOHN RITTER, M.D., Chicago.
Clinical Instructor on Tuberculosis,
Rush Medical College.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EPINEPHRIN AND PITUITARY EXTRACT

To the Editor:—Can you furnish me with a succinct comparison between epinephrin and pituitary extract as regards (*a*) effect on blood pressure, (*b*) practical indications and (*c*) dosage and technic of administration? JOHN W. BOYCE, M.D., Pittsburgh.

ANSWER.—(*a*) Both epinephrin and pituitary extract (posterior lobe) cause a rise in blood pressure. The former acts more promptly and vigorously, and its effects are of much shorter duration.

(*b*) Both preparations have been used in cases of heart failure and shock, but the pituitary is generally preferred because of its more prolonged action, though they have sometimes been combined. Epinephrin has been recommended especially for the asthenia from prolonged exertion in which suprarenal secretion is exhausted. But epinephrin is only one element in suprarenal secretion, and its effects are transient. Pituitary extract stimulates the suprarenals, and is used especially in the later stages of labor, in properly selected cases, and also to stimulate the intestinal muscle in cases of postoperative bowel inactivity. Epinephrin is used particularly for its local effects in constricting arteries, thus diminishing swelling, arresting hemorrhage and diminishing absorption of local anesthetics.

(*c*) Epinephrin may be absorbed through the mucous membranes, e. g., of the tongue, and is then given in doses of from 5 to 10 drops of the 1:1,000 solution diluted with water. Pituitary extract solution (Liquor Hypophysis, U. S. P.) is usually given by injection into the muscles or subcutaneously. The dose of this solution and also of epinephrin (1:1,000) given in the same manner is from 0.5 to 1 c.c.

TREATMENT OF HOT FLUSHES OF THE MENOPAUSE

To the Editor:—Can you suggest some remedies other than corpus luteum which may influence the hot flushes of the menopause? Please omit name. M. J., Missouri.

ANSWER.—In the field of organotherapy, the remedy frequently advised for the hot flushes of the menopause is whole ovary in doses of from 0.2 to 0.3 gm. (3 to 5 grains) three times daily by mouth. Corpus luteum should be restricted to the disturbances of menstruation during the menacme. Hot flushes are merely one of the many sympathetic nervous system disturbances of the menopause, and are believed to be due, not so much to atrophy of the ovaries, as to overactivity of the suprarenal glands. Calcium lactate, from 0.5 to 0.75 gm. (7 to 10 grains) three times daily by mouth with or without small doses of nitroglycerin has proved valuable. Hot baths, combined with a careful supervision of the daily hygiene of the patient, are possibly of even greater benefit than the medicinal treatment.

WHOLESOMENESS OF WATER FROM DEEP WELLS

To the Editor:—The town of Humboldt, Tenn., with a population of about 5,000, has a water supply which is drawn from wells about 350 feet deep and pumped directly into the mains. To insure enough water in case of fire or other emergency, it is proposed to build a concrete reservoir of 250,000 gallons capacity, through which the water will constantly flow. Is there any reason why such an arrangement might affect the wholesomeness of the water? M.D., Tenn.

ANSWER.—There is no reason why deep well water stored in a reservoir in the way suggested should not remain perfectly wholesome, provided it is protected against contamination by surface wash. It sometimes happens that deep well waters stored in reservoirs exposed to sunlight develop algal growths; but while such a growth may lead to unpleasant odors, no danger to health is involved. The reservoir should, of course, be water tight, in order to prevent possible entrance of contaminated well water in case at any time the reservoir water should be drawn down below ground water level.

DEODORANT FOR PRIVY AND CESSPOOL

To the Editor:—What would be considered an economical and efficient deodorant for use in rural communities for water-closets and cesspools? These places are usually without a pit, and the excreta fall into a wooden box, which is more or less frequently emptied, or else on the ground at the same level as the building. Such conditions offer an attractive breeding place for flies, and also become very offensive in odor. I have not found lime or crude phenol quite satisfactory.

———, Missouri.

ANSWER.—The U. S. Public Health Service (Bulletin 89) recommends compound solution of cresol for disinfecting privy vaults or privy cans, and finely powdered dry earth or wood ashes as drying powders. For privies not provided with removable cans, the use of wood ashes should be supplemented by sprinkling the deposits occasionally with 0 per cent. formaldehyd solution (Solution of Formaldehyde, U. S. P., 1 part; water, 8 parts). As deodorants and disinfectants for cesspools, compound solution of cresol, formaldehyd solution and chlorinated soda solution (sodium hypochlorite solution) are useful.

Patience and Observation in Obstetrics.—Patience in obstetrics is next to asepsis, but it must be the active patience of close observation; not the passive patience of ignorance, allowing the mother to become totally exhausted or the baby in imminent peril of death before determining on a line of action.—J. A. Harrar, *Am. J. Obst. & Gyn.* **5**:251 (March) 1923.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

DELAWARE: Wilmington, June 19-21. Sec., Dr. P. S. Downs, Dover.
FLORIDA: Daytona Beach, June 11-12. Sec., Dr. W. M. Rowlett, Tampa.
GEORGIA: Atlanta, June 6-8. Sec., Dr. C. T. Nolan, Marietta.
ILLINOIS: Chicago, June 18. Supt., Mr. V. C. Michels, Springfield.
IOWA: Iowa City, May 31-June 2. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.
KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.
KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, State Board of Health Bldg., Louisville.
LOUISIANA: New Orleans, June 7-9. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.
MICHIGAN: Ann Arbor, June 12. Sec., Dr. Beverly D. Harison, 601 Stroh Bldg., Detroit.
MINNESOTA: Minneapolis, June 5-7. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.
MISSISSIPPI: Jackson, June 19-20. Sec., Dr. W. S. Leathers, University.
NATIONAL BOARD OF MEDICAL EXAMINERS: Written examinations in Class A medical schools. Parts I and II, June 25-27, and June 28-29. Parts I and II, September 24-26, and September 27-28. Secretary, Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Application for these examinations must be made on or before May 15.
NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, State House, Lincoln.
NEW JERSEY: Trenton, June 19-20. Sec., Dr. Alexander MacAlister, State House, Trenton.
NORTH CAROLINA: Raleigh, June 25-29. Sec., Dr. Kemp P. B. Bonner, Raleigh.
OHIO: Columbus, June 5-8. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.
SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, Dallas County Bank Bldg.
VERMONT: Burlington, June 20-22. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, 720 Anchor Bldg., Roanoke.
WASHINGTON: Seattle, June 19. Sec., Mr. Wm. Melville, Olympia.
WISCONSIN: Milwaukee, June 26-28. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

THE RELATION OF THE STATE UNIVERSITY HOSPITAL TO THE MEDICAL PROFESSION *

C. P. HOWARD, M.D.
Professor of Theory and Practice of Medicine, State University of Iowa College of Medicine
IOWA CITY

When I received the chairman's invitation to read a paper on the relation of the state university hospital to the medical profession, the first question I asked myself was: "Does a state university hospital bear any different relation to the medical profession from any other hospital?" At first I was inclined to answer this by an emphatic negative. On more mature consideration, however, I began to recognize several minor differences between the relation of a state university hospital and that of a privately endowed one to the medical profession. Possibly the best way to illustrate the various points will be to refer to our own experiences in Iowa. For example, while a state university hospital may be financially independent, it must offer a practical or scientific return to make it worth while for the general practitioner to refer cases which may prove of both an educational and clinical value to the student body. In other words, it must attract the clinically interesting types of disease and not merely the undesirable, as the epileptics, the advanced tuberculous, and the hopelessly crippled. We must admit that at first in Iowa it was just this undesirable class that came in greatest number. By the investigation of such cases from every possible angle and then by sending a written report of our conclusions and by advising the family physician how best to dispose of the patient, we began to win a certain measure of confidence on the part of our confrères in the state. Thus the ice was broken and friendly relations were established which, we believe, have become closer and closer with each succeeding year.

In the second place, several prejudices had to be overcome, especially in relation to the laboratory service of the hospital. For example, because the state board laboratories, situated in Iowa City, under the direction of the department of pathology, make routine examinations of sputum for tubercle bacilli, and of the blood for the Wassermann complement fixation and typhoid agglutination, without even a clinical history of the patient, some practitioners formerly sent to the clinical laboratory urine samples with a request for information as to the probable existence of nephritis or diabetes, or brought patients for a roentgen-ray examination of the chest or gastro-intestinal tract with the expectation of an immediate diagnosis of the patient's malady by the actinographer. In spite of the fact that some commercial laboratories offer such facilities, our medical friends were immediately informed that our roentgen-ray department would not undertake such a dubious service except in conjunction with a clinician of the hospital staff, who obtained a complete history, made a general physical examination and performed the other necessary laboratory tests, after which he would be in a proper position to interpret the fluoroscopic and plate findings. This ultimatum had naturally to be uttered by the men in charge of the clinical laboratory and roentgen-ray room. However, as we in Iowa have learned always to expect, this lesson was surprisingly quickly appreciated by the medical practitioner and it seldom happens now that a patient is brought or sent directly to the roentgen-ray department without being first referred to the clinic.

What was harder for our profession to appreciate is our refusal to train technicians in blood counting, urinalysis and other diagnostic procedures. The medical man failed to realize that such a request from them showed how little they appreciated the value of these procedures and how unlikely they could recognize the pitfalls and fallacies that would beset the path of such a half-trained technician. Our reply, therefore, to such a request is the advice that the physician himself come and take the postgraduate course we offer each summer, and then teach the laboratory methods to his office assistant and so be in a position to evaluate rightly her findings. Even this startling advice seems to have borne fruit, for each summer we have from six to a dozen of the older practitioners taking our short postgraduate course of four weeks, in which five hours a week are devoted to the clinical laboratory diagnostic methods.

THE POSTGRADUATE COURSE

A short description of this postgraduate course may be of interest: In general, the course is very similar to that offered the senior medical student, with the omission of the lecture "quiz." The first hour of the day is spent in the clinical laboratory, making routine examinations of the urine, sputum, stools, gastric contents and blood. Each practitioner is given some laboratory task to perform under skilled direction. Then some special method, as the removal of a test breakfast, is performed before the entire class, and the various steps in the examination explained in detail, and the significance of the various findings dilated on. The meaning of occult blood in the stools, and the necessity of repeated sputum examinations for tubercle bacilli and elastic tissue are stressed. The students are then individually instructed in blood counting, and are encouraged to examine the blood smears from the various interesting cases in the hospital.

The class is then taken by the head of the department on the daily ward visit to the medical or surgical wards. The histories of the new cases are read, discussed and enlarged on. The clinician then makes the routine physical examination and explains the why and the wherefore of each step.

* Read before the Annual Congress on Medical Education, Medical Licensure, Public Health and Hospitals, Chicago, March 6, 1923.

On the discovery of something of clinical significance by the teacher, each postgraduate student is asked in turn to tell what he sees, feels or hears, and what the phenomenon signifies. A summary of the case is then given, and a diagnosis is expected from the class. If necessary, it follows the patient to the fluoroscopic room, or inspects the roentgenograms. The group then visits the old cases and watches the progress of the disease or the results of the therapeutic measures enforced. The morning's work closes with an amphitheater clinic in the various special branches, as neurology, pediatrics, and genito-urinary and orthopedic surgery and dermatology. At these special clinics, type cases are presented in a simple manner, and the treatment of cerebrospinal syphilis, epilepsy, marasmus, gonorrhea, flat foot, chronic eczema and the like is discussed in detail. In the head specialties, only the simplest diagnostic procedures are taught, as the examination of the sinuses, the ear drum and the eye grounds. In the afternoons the various laboratory courses are given, as surgical anatomy, operative procedures on the cadaver, postmortem technic and morbid anatomy. By 4 o'clock the program is over for the day, and the postgraduate can read in the library, or drop into the clinical laboratory to do some work or look on at the various operating rooms. Such, in brief outline, is the course offered each year by the university to the medical profession for a registration fee of $25.

An annual clinic is held each winter for two days. To it every reputable medical practitioner of the state is invited. The program comprises amphitheater clinics, conducted by the entire clinical staff, with special demonstrations for those interested in some special field, as the head specialties, psychiatry, cardiology, actinography or cystoscopy. The first evening is devoted to a "smoker," at which addresses by the president of the university, the dean and prominent alumni are made. In this way the alumni, the faculty and undergraduate medical students are brought together and act as hosts to the graduates of other medical colleges practicing in the state. On the second day, some medical man of national repute lectures on his special field.

Naturally, the staff makes an attempt to accept all invitations to read papers or to hold clinics before the various county and district societies; this, of couse, calls for a considerable expenditure of time and energy. Lastly, when needed, the clinical staff goes out in consultation to neighboring towns, provided such a journey will not interfere with its teaching and hospital duties. Daily, during certain limited hours, we see in our offices in the hospital private patients referred by outside practitioners.

For the clinical patients we have a fairly accurate follow-up system—more elaborate in some clinics, as psychiatry and orthopedic surgery, than in others.

LAWS FOR CARE OF INDIGENT

While we feel that a large part of the success of the University Hospital in Iowa City has been due to the practices described, we must not fail to mention the state laws for the care of indigent children and adults. Yet it must be evident to any fairminded critic that these laws would not have been enforced if there had not been a demand for such legislation on the part of the public and the profession. Prior to 1915, many patients presented themselves for treatment who were unable to pay the clinical rate of $2.50 a day for the period necessary for their proper treatment; nor did the University Hospital have sufficient funds to care for them as free cases. Accordingly, in 1915 the Perkins law for indigent children was passed, and met with such approval that in 1917 a similar measure (the Klaus-Haskell Law) was introduced for the care of indigent adults.

The principle underlying each law is that any legal resident of a county desiring treatment at the University Hospital for himself or for any member of his family can make application through his physician, county supervisor, township trustee, public health nurse, overseer of the poor, policeman, priest or minister to the judge of the district or superior court. The latter then appoints a local physician to certify as to the nature of the applicant's disease and the possibility of its correction. A request by the court to the county attorney is also made to investigate the financial standing of the applicant. When the judge is satisfied with the medical and financial statements, the papers are forwarded to the superintendent of the University Hospital, who in turn refers them to the proper department, which, when a vacancy occurs, asks the patient to report for examination in the outpatient service. There the history is taken and a physical examination made by some duly authorized member of the department, who either recommends the patient for admission to the wards or returns him home in charge of his escort, if not amenable to treatment. In the case of acute surgical and medical emergencies, the patients are admitted to the wards before the papers have been received, on the understanding that the patient's family will be responsible for the hospital expenses if the papers are not forthcoming. As with all laws of their kind, they are open to abuses; yet, as time goes on, these abuses are being rectified.

Local pressure is no doubt sometimes brought to bear on either the physician or the county attorney to certify that a given case is either amenable to treatment or a true county charge. This complaint, unfortunately, has reached our ears on more than one occasion. We have naturally to accept the affidavits presented to the courts. On the other hand, the pay clinical cases are being more and more closely investigated by our social service department, which is gradually eliminating this abuse at least.

THE VITALIZING ELEMENT

Perhaps it would not be superfluous to close this rather rambling paper with a quotation from Osler, who, in his address on "Teacher and Student" in 1892, wrote:

"But it is a secondary matter, after all, whether a school is under state or university control, whether the endowments are great or small, the equipments palatial or humble; the fate of an institution rests not on these; the inherent, vital element, which transcends all material interests, which may give to a school glory and renown in their absence, and lacking which all the 'pride, pomp and circumstance' are vain—the vitalizing element, I say, lies in the men who work in its halls and in the ideals which they cherish and teach."

Connecticut November Examination

Dr. Robert L. Rowley, secretary, Connecticut Medical Examinating Board, reports the written examination held at Hartford, Nov. 14-15, 1922. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 20 candidates examined, 15 passed and 5 failed. Six candidates were licensed by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University		(1922)	78.2
University of Maryland		(1922)	75.6, 84.5
Harvard University		(1922)	83.7, 87.7
Tufts College Medical School		(1921)	77.1
Columbia University	(1920) 82.5,	(1922)	87.7
Fordham University		(1919)	75
University of Buffalo		(1922)	78.1
Jefferson Medical College		(1922)	85.1
Vanderbilt University		(1916)	76.6
University of Vermont		(1922)	77.8
Medical College of Virginia		(1917)	75.4
University of Budapest, Hungary		(1919)*	75

College	FAILED	Year Grad.	Per Cent.
University of Vermont		(1899) 45.6, (1918) 72, (1921)	70.9
National University of Athens, Greece		(1918)*	65.2
University of Naples, Italy		(1920)*	60.2

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Harvard University		(1897)	Mass.
Dartmouth Medical School		(1912)	New York
Columbia University		(1903)	Rhode Island, (1912) New York, (1915) North Carolina
University College of Medicine, Richmond		(1905)	Virginia

*Graduation not verified.

Delaware December Examination

Dr. Henry W. Briggs, president, Medical Council of Delaware, reports the examinations held by the regular and homeopathic boards, Dec. 12-14, 1922. The examinations covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Seven candidates were examined, all of whom passed. Three candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Michigan Homeopathic Medical College		(1922)	93
Hahnemann Med. Coll. and Hosp., Philadelphia		(1921)	91, 91
Jefferson Medical College		(1921) 79.7, (1922)	89.2
Temple University		(1922)	80.7, 82.2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Johns Hopkins University		(1918)	Minnesota
Jefferson Medical College		(1912), (1920	Penna.

Kansas February Examination

Dr. Albert S. Ross, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination held at Topeka, Feb. 13-14, 1923. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Four candidates were examined, all of whom passed. Eleven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Harvard University		(1922)	89.9
University and Bellevue Hospital Medical College		(1921)	89.3
University of Pennsylvania		(1921)	91.2
Chattanooga Medical College		(1906)	85

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery		(1917)	Illinois
Northwestern University		(1921)	Illinois
College of Physicians and Surgeons, Keokuk		(1889)	Iowa
Keokuk Medical College, College of Phys. and Surg.		(1908)	Iowa
Kansas City College of Medicine and Surgery		(1921)	Wyoming
Missouri Medical College		(1882)	Missouri
National University of Arts and Sciences		(1913)	Missouri
St. Louis College of Physicians and Surgeons		(1892)	Nevada
Washington University		(1921)	Missouri
Eclectic Medical University		(1918)	Colorado
University of Nashville		(1911)	Oklahoma

North Dakota January Examination

Dr. G. M. Williamson, secretary, North Dakota State Board of Medical Examiners, reports the oral, written and practical examination held at Grand Forks, Jan. 2-5, 1923. The examination covered 13 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 8 candidates examined, 7 passed and 1 failed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University		(1922)	82.7
State University of Iowa College of Medicine		(1921)	80.5
Johns Hopkins University		(1921)	84
University of Nebraska		(1922)	83.9
University of Manitoba		(1921) 79.7, (1922)	80.5
University of Toronto		(1922)	81.1

College	FAILED	Year Grad.	Per Cent.
Cincinnati College of Medicine and Surgery		(1900)	*

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
State University of Iowa College of Medicine		(1921)	Iowa
University of Minnesota		(1922)	Minnesota

*No grade given.

Book Notices

DISEASES OF THE EAR, NOSE AND THROAT: MEDICAL AND SURGICAL. By Wendell Christopher Phillips, M.D., Professor of Otology, New York Post-Graduate Medical School and Hospital. Sixth edition. Cloth. Price, $8 net. Pp. 880, with 578 illustrations. Philadelphia: F. A. Davis Company, 1922.

The sixth edition of this always reliable textbook approaches, in its present form, the dignity of a true treatise. The work has been modernized to within a few months of its issue, not only by extensive elaboration and illustration, but also by the elimination of numerous methods and procedures which, though obsolete, still appear as necessary material in the mediocre textbook. Particularly refreshing are the chapters on suspension laryngoscopy, bronchoscopy and esophagoscopy, and one reads with respect the monograph on the ethmoid. The subject matter covering diphtheria, syphilis, asthma, allergy and the pollen treatment of hay-fever is unusually up to date. The book is well planned and executed. There are numerous excellent illustrations of prepared specimens, modern instruments, and reproductions of instructive roentgenograms. The volume can be recommended to the student and practitioner as an ideal text and reference work.

CAROTINOIDS AND RELATED PIGMENTS, THE CHROMOLIPOIDS. By Leroy S. Palmer, Ph.D., Professor of Agricultural Biochemistry, University of Minnesota. Cloth. Price, $4.50 net. Pp. 316, with 6 illustrations. New York: Book Department, The Chemical Catalog Company, Inc., 1922.

This is one of the valuable series of monographs the American Chemical Society is promoting, in order to make available concise but complete statements of the existing knowledge in many fields of chemistry. This is among the several projected or published monographs that have value for medicine, since the carotinoid pigments occur in man and occasionally show modifications in disease. We may mention, for example, the fact that a condition resembling jaundice has been observed following a diet containing excessive quantities of carrots and other vegetable foods rich in these pigments, especially in children. The yellow skin of diabetics, described by von Noorden as xanthosis diabetica, seems also to depend on the vegetarian diet of these patients. The yellow color of the corpus luteum, of the fat tissues, and probably the animal pigments called lipochrome, in general, are merely stored vegetable pigments of the carotinoid group. As a complete and lucid discussion of the subject with full bibliography, this book is of great value as a statement of everything learned to date in this field.

MULTIPLE SCLEROSIS (DISSEMINATED SCLEROSIS). An Investigation by The Association for Research in Nervous and Mental Diseases. Report of the Papers and Discussions at the Meeting of the Association, New York City, December 27th and 28th, 1921. Editorial Board: Charles L. Dana, M.D., Smith Ely Jelliffe, M.D., Henry Alsop Riley, M.D., Frederick Tilney, M.D., Walter Timme, M.D. Cloth. Price, $3.75. Pp. 241, with illustrations. New York: Paul B. Hoeber, 1922

This is the second volume of the transactions of the Association for Research in Nervous and Mental Diseases, and contains the latest work and views on the subject of disseminate sclerosis. These are not arranged as in a textbook, but practically every aspect of the disease is the subject of one or more articles, which are grouped according to topics and followed by the discussions that took place at the meeting. The volume has been carefully edited, and is well bound and illustrated; it lacks only an index. It cannot be equaled in any language, and can be heartily recommended to every neurologist.

TECHNIK UND METHODIK DER BAKTERIOLOGIE UND SEROLOGIE. Von Professor Dr. M. Klimmer, Direktor des Hygienischen Instituts der Tierärztl. Hochschule Dresden. Paper. Price, $2.80. Pp. 520, with 223 illustrations. Berlin: Julius Springer, 1923.

This book contains a well selected, critically elaborated series of directions for bacteriologic and serologic examinations. It will be helpful to physicians, veterinarians, bacteriologists, food chemists and investigators. It is intended as a book of reference, and is provided with an extensive index. While not expressly indicated, it is evident even

from a cursory examination that it is principally German procedures that receive consideration; but this limitation in mind notwithstanding, the book is recommended heartily to all who have use for a handy source of reference and description of bacteriologic and serologic methods.

VERLETZUNGEN DES AUGES IN KLINISCHEN BILDERN. Für praktische Aerzte. Von Prof. Dr. Ernest Blessig, Direktor der Univ. Augenklinik in Dorpat. Paper. Pp. 43. Berlin: S. Karger, 1922.

This little pamphlet, printed on the cheapest kind of paper and without embellishments of any sort, proves on careful analysis to be of great value. It is merely a clinical record of thirty-six cases of eye injury, illustrating nearly all possible types. The conventional division of injuries into five main groups has been followed in the main, and to these have been added the various types of unusual war-time injuries. Unnecessary details have been eliminated, the essential phases of clinical description being left, so that a mental image of the case in question is readily formed. The medical and surgical treatment in each case is outlined in sufficient detail, and the immediate outcome of the case is mentioned. It is somewhat unfortunate that the author did not include the ultimate outcome after several years of observation. Although originally written in Russian (owing to the cost of publishing, it has been impossible to bring out a Russian edition as was planned), the German is excellent, being clear and concise without circumlocution.

TEXT-BOOK OF PEDIATRICS. Edited by Professor E. Feer, Director of the University Children's Clinic, Zurich. Translated and Edited by Julius Parker Sedgwick, B.S., M.D., Professor of Pediatrics, University of Minnesota Medical School, and Carl Ahrendt Scherer, M.D., F.A.C.P. Cloth. Price, $8.50. Pp. 917, with 262 illustrations. Philadelphia: J. B. Lippincott Company, 1922.

This is the first English translation of one of the most widely known continental volumes on pediatrics, a book now in its seventh German edition, from which the American translation is made. In translating the book, fifteen American and nine European contributors have collaborated, and the editor states in his preface that the collaborators have added much to the original subject matter, particularly in the way of original illustrations. The volume follows essentially the arrangement of most textbooks of pediatrics, taking up, first, general considerations, and following with the special diseases of the child. One of the faults of this, as of most similar works, is, of course, its unevenness, since the contributors naturally vary in the style of language and in the particular methods with which they are concerned. The book is perhaps open to the criticism that it does not represent any particular point of view but rather tends to represent all points of view. For this reason it is not so suitable as some of the special works of individual writers. On the other hand, it constitutes a vast storehouse of information regarding the diseases of infants and children. It has an elaborate index, and is an extraordinarily suitable reference work for both the student and the practitioner.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital. Fifth edition. Cloth. Price, $5. Pp. 610, with 32 illustrations. New York: William Wood & Co., 1922.

This volume has had a special place among important books on dietetics, since it deals primarily with principles rather than with menus and preparations. The last previous edition was published in 1916, since which time the author has had the experience of aiding the British government in war rationing. Unlike most English authors, he has not been inclined to accept blindly the claims of manufacturers as to the special nutritive values of various proprietary preparations. For example, consider this statement: "Preparations, such as Bovril and Oxo, to which meat fibre has been added, may theoretically be regarded as food, but contain far too little protein to admit of their ever being able to contribute appreciably to nutrition." While there is a vast amount of tabular data, concerning both natural and artificial foods, the author leaves it largely to the reader to construct suitable menus and diets on the basis of the information provided. It is planned for study rather than for spoon-feeding of information.

Miscellany

TUBERCULOSIS AMONG THE NORTH AMERICAN INDIANS

The National Tuberculosis Association appointed a committee in 1921 to investigate tuberculosis among the North American Indians. Drs. G. M. Kober, G. E. Bushnell, H. E. Dearholt, J. A. Murphy and A. B. Tonkin, and Mr. W. H. Baldwin comprised the committee. In its recent report, it is said that the peak of excessive mortality among the Indians was reached in 1913, when the death rate was 32.24 per thousand. This was gradually reduced until, in 1920, the rate was 22.33 per thousand. Of the total number of deaths of Indians in 1911 tuberculosis caused 32 per cent., in 1920, 27 per cent. Scrofula and consumption were observed among the Indians of North America as early as 1635-1658, in which period the prevalence of tuberculosis among the Indians was no greater than among the white race, and perhaps not as great. It appears that there has been a progressive increase in the prevalence of the disease since their contact with the white race. The variations in the prevalence of tuberculosis among the different tribes today are great: some are thoroughly tuberculized; others show the characteristics of recent acquaintance with the disease. Among the five civilized tribes of Indians in Oklahoma, tuberculosis is no more prevalent than among the white people of the state who live on the same industrial plane. The Indian has passed through a state of decadence when his disappearance was imminent. Medical science and a humanitarian government have overcome his downward trend, and there is now a hopeful outlook. The records of the Census Bureau indicate that there has been an increase in the Indian population of 7,241 since 1900.

The first hospital for Indians was established in 1882. In 1922, there were seventy-three hospitals, 200 physicians, 100 nurses, 100 hospital employees, ninety field matrons, and other employees in the Indian medical service. The committee says that, with few exceptions, the spirit which animates the work of the physicians, teachers and other employees in the conservation of the health of the Indians is worthy of commemoration and praise, and that the most urgent need today are provisions for adults in the incipient and advanced stages of tuberculosis. There are needed two or three sanatoriums, one of them for hopeless cases, where an adult Indian can die in peace and comfort without jeopardizing the lives of those to whose care he is committed. This sound policy, the committee continues, is absolutely essential for anything like reasonable success in mitigating the spread and ravages of the disease.

In some states, notably New York, there is a conflict of opinion as to whether the federal or state government is responsible for the health of the Indians. It appears that the federal government has never made any appropriation for the health service of the New York Indians, because the treaties between the Six Nations of New York and the United States have no reference to the Indians' health. The committee urgently recommends in justice to the tribes of New York that the conflict of jurisdiction be brought to the attention of the Department of Justice with a view of settlement. While there are a good many Indians who are citizens and taxpayers, it should be remembered that the majority of the 336,337 Indians in the United States are poor and scattered. The policy of the Bureau of Indian Affairs has been to make them self-supporting by teaching them how to work. Their employment unfortunately is often of a temporary character, and their income wholly inadequate to maintain a proper standard of living. Thus, their vitality is often so reduced they are unable to do a full day's work, and they are cruelly accused of being lazy, when in truth they have not sufficient food. The bureau is aware that insufficient food is an important cause of the undue prevalence of tuberculosis, and yet, sometimes in extreme emergencies, it is difficult, if not impossible, to meet the situation, owing to a lack of funds.

Medicolegal

Correctness of Instructions to Jury in Fracture Case

(Huber v. Hamley et al. (Wash.), 210 Pac. R. 769)

The Supreme Court of Washington says that the plaintiff contended that the defendant physicians negligently reduced a fracture in his right arm, and negligently treated the fracture after the reduction. On the trial, the following instruction to the jury was requested:

> You are instructed that, where a physician undertakes the treatment of a patient, not only must he use reasonable but ordinary skill and care in said treatment at the time he takes charge of said case, but also he must use ordinary skill and care in the subsequent treatment of the case, and it is his duty to give the patient such attention after the first examination or reduction of the fracture as ordinary physicians and surgeons, possessing ordinary skill and intelligence, practicing in the same general locality, would deem necessary in a similar case, and, if you find from the evidence that the defendants attempted to reduce the fractured radius for said plaintiff, but did not thereafter use reasonable care and skill in the subsequent treatment of said fractured bone, or such care as is imposed on physicians holding themselves out as physicians and surgeons possessing the ordinary knowledge and skill of the physicians and surgeons located and practicing their profession in the same general locality; and, if you further find from the evidence that because of such failure to use reasonable care and skill in the original treatment or subsequent treatment of the injured arm the plaintiff was permanently injured or suffered pain, injury and damage, then you will find for the plaintiff in such sum as you deem just and proper.

It was conceded by the defendant that this instruction properly stated the law, but it was argued that the substance thereof was given in other instructions; and the court says that were the refusal to give it the only error assigned, the case would not be reversed, yet this instruction would be proper to be given on a new trial. Error was assigned on the giving of the following two instructions:

> I instruct you that the burden of proof is on the plaintiff, and in order that the plaintiff recover in the action he must prove by preponderance of the evidence the following: first, that the defendants did not with medical skill and care properly treat plaintiff and his fractured arm; second, that such failure so to treat plaintiff with reasonable and ordinary skill, as defined in these instructions, resulted in the injury complained of; third, the said alleged injury is due to lack of the exercise of ordinary skill and care and not otherwise; fourth, that the plaintiff was not guilty of negligence contributing to such injury. And a failure to establish any of these matters required that the jury shall find a verdict for the defendants.
>
> The court instructs the jury that the only question in this case for your determination is whether the defendants, when the plaintiff called on them, properly reduced the fracture in the plaintiff's forearm, and gave him proper and necessary directions and instructions for the care of the same. If they did, then they cannot be held liable for any injury resulting from any redislocation of the said fracture that may have afterward occurred.

The first of these two instructions was erroneous for the reason that it placed the burden of proof on the plaintiff to establish the fact that he was not guilty of contributory negligence. The second instruction was erroneous for the reason that the jury was there instructed that the only question for its determination was whether the defendants had improperly reduced the fracture, whereas, as a matter of fact, the most important issue before the jury was the question of the defendants' responsibility for failure to treat the fracture after its reduction. Neither of these instructions should have been given, and they so vitally affected the plaintiff's rights that the giving of them was prejudicial, and for that reason the judgment of the lower court in favor of the defendant physicians is reversed, and a new trial granted.

Manager of Farm Not Liable for Medical Services

(Whitney & Chadbourne v. Holloway (Iowa), 190 N. W. R. 930)

The Supreme Court of Iowa, in reversing a judgment obtained by the plaintiffs for services rendered by Dr. Whitney, says that the defendant was in the employ of the owners of certain farms, having charge and management of the farms. Another employee, while assisting the defendant in hauling logs, sustained a fracture of one leg, and was taken to the office of a physician. That physician testified that he sent for the defendant and told him that he would have to engage some other physician. The defendant said, "All right." When asked who should be engaged, he answered, "Whoever you think best." The physician said, "I will get Dr. Whitney by telephone," and the defendant replied, "All right, get him." The physician called Dr. Whitney, and told him about the conversation with the defendant. The injured man testified about the conversation—that the physician told the defendant that he would have to have some help; he wanted to know whom he should get, and said, "We would get Whitney"; and the defendant said to get Whitney. Dr. Whitney testified that the other physician explained to him that the man had been injured during a logging operation on the Whiteis estate, and that the defendant, their agent, had instructed the physician to send for Dr. Whitney and have him take charge of the case, which he did. At the close of all the testimony the plaintiffs dismissed their petition against the owners of the farms.

The principal and primary question, then, was whether or not, on the record disclosed above, the defendant manager could be held liable for the value of the services rendered to the injured man by Dr. Whitney. This defendant was under no legal obligation to employ a physician for the injured man, or to become personally liable for the services of a physician rendered to him. He could have bound himself by an express contract to pay for such services. There was not sufficient evidence of the making of any such express contract to carry that question to the jury. Giving to the evidence the most favorable construction of which it was capable, there was no proof whatever of any express promise on the part of this defendant to pay for the services of Dr. Whitney or to become liable for them. This left the question of whether or not there was sufficient evidence of an implied promise on the part of this defendant, from what he said and did in connection with the matter, to carry the case to the jury and to sustain a finding of such implied promise on his part.

The general rule has been recognized by this court, in *Holmes* v. *McKim, 109 Iowa,* 245, 80 N. W. 329, wherein the court said:

> Where one merely calls a physician to attend on another, the law raises no implied promise to pay, on the part of the person making such request, unless the latter's relation to the patient is of such a character as imposes on him the duty to supply a physician, and the relation of employer and employee is not sufficient to do this.

This is a salutary and beneficient rule. Not every one who summons a physician to attend the sick or injured should be held personally liable by an implied contract to pay for the services rendered. It is readily within the power of the physician to secure an express contract in such a case. Otherwise he must look to the patient for his compensation. In the present case the defendant was under no legal obligation whatever to pay for the services that were rendered to the injured man. He did not agree to pay for the same. The fact that he was the superintendent of the work in which the employee who was injured was engaged created no legal obligation on the defendant's part to pay for the services that were rendered to the injured man by the physician. The defendant was liable only in the event of an express contract. There was no such contract proved. The trial court should have sustained the defendant's motion for a directed verdict at the close of the evidence.

Physician Not Qualified to Testify as to Tuberculin Test on Cattle

(Buerkli v. Carstens Packing Co. (Wash.), 210 Pac. R. 798)

The Supreme Court of Washington says that in this case, which involved a charge of misrepresentation with regard to certain cattle having been given the tuberculin test a few days before they were sold, a witness who was not allowed to testify was a physician and surgeon, but not a veterinary surgeon. He had never qualified in the veterinary science and had never treated cattle or animals, and knew nothing about the effect of the tuberculin test on cattle or other animals. He testified that he had never gone into the science or studied diseases of cattle. The trial court was right in rejecting his testimony. While a general physician may have some knowledge as to the effect of tuberculin tests on either human beings or other animals, this witness could not be said to have so qualified himself as to diseases of cattle and testing them for tuberculosis that he was a competent witness.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, San Francisco, June 25-29. Dr. Olin West, 535 N. Dearborn St., Chicago, Secretary.

American Association for Thoracic Surgery, Chicago, May 29-30. Dr. Charles Gordon Heyd, 46 W. 52d Street, New York City, Secretary.
American Association of Anesthetists, San Francisco, June 25-27. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.
American Climatological and Clinical Association, Niagara Falls, Ont., May 23-25. Dr. Arthur K. Stone, Framingham Center, Mass., Sec'y.
American Gynecological Society, Hot Springs, Va., May 21-23. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.
American Laryngological Association, Atlantic City, May 16-18. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.
American Ophthalmological Society, Colorado Springs, June 19-21. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.
American Orthopedic Association, Rochester, N. Y., June 7-9. Dr. DeForrest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Pediatric Society, French Lick, Ind., May 31-June 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.
American Proctologic Society, Los Angeles, June 22-23. Dr. Ralph W. Jackson, 245 Cherry Street, Fall River, Mass., Secretary.
American Radium Society, San Francisco, June 25-26. Dr. Edwin C. Ernst, Humboldt Bldg., St. Louis, Secretary.
American Society of Clinical Pathologists, San Francisco, June 25-26. Dr. Ward Burdick, 652 Metropolitan Bldg., Denver, Secretary.
American Society of Tropical Medicine, San Francisco, June 25-26. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Sec'y.
American Therapeutic Society, San Francisco, June 22-23. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.
American Urological Association, Rochester, Minn., May 21-23. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Ind., Secretary.
Arizona Medical Association, Grand Canyon, June 21-22. Dr. D. F. Harbridge, Goodrich Bldg., Phoenix, Secretary.
Association for the Study of Internal Secretions, San Francisco, June 25. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.
California, Medical Society of the State of, San Francisco, June 21-23. Dr. W. E. Musgrave, Balboa Bldg., San Francisco, Secretary.
Connecticut State Medical Society, New Haven, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Illinois State Medical Society, Decatur, May 15-17. Dr. W. D. Chapman, Silvis, Secretary.
Maine Medical Association, Houlton, June 5-7. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.
Massachusetts Medical Society, Pittsfield, June 12-13. Dr. W. L. Burrage, 182 Walnut Street, Brookline 46, Boston, Secretary.
Medical Women's National Association, San Francisco, June 25-26. Dr. M. J. Potter, First National Bank Bldg., San Diego, Calif., Secretary.
National Tuberculosis Association, Santa Barbara, Calif., June 20-23. Dr. George M. Kober, 370 Seventh Avenue, New York.
Nebraska State Medical Association, Lincoln, May 14-17. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.
New Hampshire Medical Society, Concord, May 23-24. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Jersey, Medical Society of, Atlantic City, June 21-23. Dr. William J. Chandler, South Orange, Secretary.
New Mexico Medical Society, Albuquerque, June 19-21. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Secretary.
North Dakota State Medical Association, Grand Forks, May 31-June 1. Dr. H. J. Rowe, Lisbon, Secretary.
Pacific Northwest Medical Association, Seattle, June 19-21. Dr. F. Epplen, 422 Paulsen Building, Spokane, Secretary.
Radiological Society of North America, San Francisco, June 21-22. Dr. M. J. Sandborn, Appleton, Wis., Secretary.
Rhode Island Medical Society, Providence, June 7. Dr. I. W. Leech, 369 Broad Street, Providence, Secretary.
Utah State Medical Association, Salt Lake City, June 20-22. Dr. W. L. Rich, Boston Building, Salt Lake City, Secretary.
West Virginia State Medical Association, Beckley, June 12-14. Dr. Robert A. Ashworth, Moundsville, Secretary.
Western Society for the Study of Hay Fever, Asthma and Allergic Diseases, San Francisco, June 25. Dr. A. H. Rowe, Hutchinson Bldg., Oakland, Calif., Secretary.
Wyoming State Medical Society, Laramie, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

TENNESSEE STATE MEDICAL ASSOCIATION

Nineteenth Annual Meeting, held at Nashville, April 10, 11 and 12, 1923

The President, DR. H. M. TIGERT, Nashville, in the Chair

Three Years' Experience with Radium

DR. J. HOWARD KING, Nashville: Radium has its greatest value in the treatment of carcinoma of the cervix, uterine bleeding with or without tumors, and other mucous membrane malignancies in this order: mouth, rectum and vagina; in superficial malignancies, angiomas, and in benign excrescences, such as nevi, keloids and warts. Needle implantation is superior to surface application. Malignant cases in which one uniformly heavy dose is given do better than those in which repeated light dosage is employed. Some malignant cases that seem hopeless at first respond well later. This is especially true in older patients. In rectal cases, a permanent colostomy should first be established in order to permit sufficient irradiation without causing distressing symptoms. Indications are that results of much greater promise will be obtained by the aid of deep roentgen-ray therapy.

Acute Brain Injuries

DR. H. H. SHOULDERS, Nashville: When the destruction of brain tissue is not sufficient of itself to cause death, increased intracranial tension may prove fatal or produce a serious change in mentality. The condition of increased intracranial tension must be determined by the spinal mercury manometer. The symptoms of slow, full pulse, slow, deep breathing, increased blood pressure and choked disk appear too late to be of much value. Lumbar drainage, when performed with due caution, is a safe procedure in acute brain injuries. The relief of increased intracranial tension by lumbar drainage is possible in a large percentage of cases.

Lesions of the Stomach

DR. E. STARR JUDD, Rochester, Minn.: The characteristic symptoms of gastric ulcer are well known: chronicity; periodicity; seasonal incidence; hunger pain, relieved by food, alkali and vomiting; and rarely hemorrhage, perforation or obstruction. It is impossible to differentiate a benign from a malignant gastric ulcer by roentgen-ray examination. Therefore, patients with gastric ulcer should not be treated medically, and in the operative procedure the ulcer should be removed or destroyed, if possible, and a microscopic examination made. The type of operation will depend on the size and location of the ulcer, and whether or not hour-glass deformity or multiple ulcers are present. If the operation is simple exclusion, a gastro-enterostomy must also be performed; otherwise the emptying of the stomach may be impaired. If a sleeve resection is performed, gastro-enterostomy will not be necessary. There are two types of duodenal ulcer, the crater and the duodenitis. Surgical treatment is the same for the two types of ulcer. If the ulcer is accessible and there is not too much deformity of the duodenum, the lesion may be excised; excision is especially indicated if there is a history of hemorrhage. Some surgeons prefer a form of pyloroplasty with excision, but I do not believe this is necessary unless there is obstruction or marked spasm. Gastro-enterostomy has been a very successful operation for duodenal ulcer, but occasionally it results in the formation of a jejunal ulcer, which is a formidable complication. One great advantage of excision is that it is not followed by secondary ulcer. The symptoms of gastric syphilis are not definite. The average age of the patients is about 35 years. The prognosis depends on the duration of the symptoms. Clinical improvement is often prompt. Anatomic cure depends on the amount of sclerosis that has occurred. Free hydrochloric acid has appeared in the gastric secretion of patients who, before treatment, had achlorhydria. Benign tumors of the stomach are rare, comprising about 1.3 per cent. of all gastric tumors that come to operation. They are myomas, fibromas, angiomas, dermoids, polypi, adenomas and polyposis. Myomas are most common; gastric polyposis the most rare. It is not possible to determine the kind of growth by inspection, except in cases of gastric polyposis, which shows characteristic mottling. The surgical end-results are excellent. The immediate results of the radical operations for carcinoma of the stomach have been improved by better preoperative preparation of starved and anemic patients as well as by recent improvements in technic. The ultimate results compare well with those of operations for carcinoma of other regions. Sarcoma of the stomach is rare, occurring about once to sixty-seven carcinomas. The most common symptoms of lymphosarcoma of the stomach are loss of weight, pain, vomiting, bleeding and anemia. Occasionally there is an ulcer syndrome. The average age of the patients is 46 years, although the lesion has been found in persons aged 16 and 62 years. The only treatment is resection, if possible, but the ultimate results are very poor.

Comparison of the Wassermann Test with the Kahn Flocculation Test in One Thousand Cases

DR. WILLIAM LITTERER, Nashville: The Kahn reaction is distinguished from other precipitation tests by these salient

features: 1. The serum is employed without dilution, Kahn having shown that diluting the serum with salt solution delays the rapidity of the reaction. 2. The antigen is prepared so as to have a high antigenic titer. This is attained by using an alcoholic extract of dried heart muscle, which has been previously extracted with ether, thus removing fat and other nonspecific substances. 3. The antigen is diluted for the test with approximately the smallest amount of physiologic sodium chlorid solution that will hold it in solution, rendering it thereby susceptible to precipitation when mixed with positive serum. 4. The antigen and serum are employed in that relationship which will, in Kahn's opinion, result in maximum precipitation. Agreement with the Wassermann reaction was surprisingly accurate, in view of the simplicity and economy of materials and time. The test or its modification may be used with advantage to check the Wassermann reaction, especially in doubtful cases. I do not feel that the test should supplant the Wassermann reaction, but the two should be run conjointly to insure more accurate reports. It certainly deserves serious consideration on the part of serologists.

Deductions from a Review of One Thousand Roentgen-Ray Examinations of the Gastro-Intestinal Tract

DR. S. W. COLEY, Memphis: Simple gastric ulcers have been of rare occurrence in this series. There were eight simple gastric ulcers, and two gastrojejunal ulcers, a total of 1 per cent. of the series; the average age was 50 years, and the cases are equally divided between men and women. In this consecutive series there were eighteen gastric carcinomas, nine in men and nine in women; the average age was 60 years, the youngest a man, aged 31, the oldest, a woman, aged 73; eleven of these were diagnosed from the anatomic location and probable amount of involvement. By far the most frequent gastric and upper abdominal lesions revealed by the roentgen ray are the duodenal ulcers. The diagnosis of these ulcers in a typically deformed bulb is not a difficult matter, but not all duodenums are so situated as to be easily seen; nor are they when deformed in a typical manner. Proper and adequate screen facilities must be available. The diagnosis depends wholly on the efficient use of the fluoroscopic screen. We have incidentally found a few cases of gallstones during the process of our gastro-intestinal examinations. One interesting case was that of combined gallstones and duodenal ulcer, both of which were confirmed at operation. Studies of the colon have been interesting and illuminating in that most findings have been of functional nature with few organic lesions. By far the greater number of cases examined showed some degree of hypertonicity; atonic colons were exceptional. Coincident disease of the tract, such as appendicitis, cholecystitis, gastric or duodenal ulcer and postoperative adhesions, has been assigned as the cause of the spasticity in most cases. In this series there were six cases of carcinoma of the colon, four in men and two in women. The barium enema has proved the best method for locating these growths; the ingested meal has proved unreliable. The appendix was seen in about 35 per cent. of all cases examined; but unless it presented some abnormality in mobility, fixation or was obstructed by some foreign substance, no attention was paid to it.

Peptic Ulcer

DRS. R. L. SANDERS and C. C. KING, Memphis: In our clinic, 1,000 gastro-intestinal cases were studied during the last three years. All the patients complained sufficiently of stomach trouble to warrant a thorough gastric analysis and roentgen-ray examination. We found 118 positive cases. Of this number, eighty-seven were duodenal ulcers, nine gastric ulcers, twenty carcinomas and two syphilis of the stomach. This is about the average proportion reported from other clinics. Gastric hemorrhage has been looked on for many years as a sure sign of ulcer, but less reliance is now placed on this symptom alone. Vomiting and hemorrhage may be features, but when they are the only symptoms, ulcer is rarely found. If the ulcer is treated surgically after the patient has been properly prepared, the simplest and most applicable method should be used. There is a tendency toward radicalism, which we do not accept. It is rarely necessary to resect the ulcer-bearing zone in duodenal ulcers. There is no tendency to cancerous degeneration, the results after gastro-enterostomy or pyloroplasty are usually good and the mortality is not high; with resections, the risk is great. In gastric ulcer cases, when the ulcer is small, the simple method of cautery excision, as pointed out by Balfour, with gastro-enterostomy, will usually cure the disease, and the mortality is from about 3 to 5 per cent. If the ulcer is large and located near the pylorus, resection of the Billroth or Polya type should be done. The large ulcer near the middle of the stomach may best be treated by sleeve resection. Much has recently been written about the marginal or gastrojejunal ulcers that form after gastro-enterostomy. In our series we have two such cases, both of which have been relieved entirely by proper medical management. We believe that new ulcers probably came from the same source as the primary ones, and to prevent such recurrences, we remove all possible foci of infection as a part of the treatment. Trauma produced by the improper use of clamps in doing a gastro-enterostomy may be a factor, and on this account we either do not use them or use them with much care. Failures in the relief of symptoms by surgical treatment may also be due to unremoved abdominal disease.

Version

DR. R. O. TUCKER, Nashville: Potter has rendered a distinct service in reviving the operation of version, and it should be used more often than it is; when possible, it should replace high or even medium forceps operations. The indications have been much broadened, but I do not believe it should be used in normal left occipito-anterior positions.

Wassermann-Fast Syphilis

DR. BRYCE W. FONTAINE, Memphis: The best course to pursue in the treatment of Wassermann-fast cases of syphilis depends on the clinical appearance of the patient and the urgency of the symptoms. If the patient's physical condition is good, antisyphilitic treatment should not be pushed further than that ordinarily used in the treatment of resistant cases. Should there be present, with a persistently positive blood or spinal fluid Wassermann reaction, active and progressive involvement of the liver, aorta or cerebrospinal system, there should be no hesitation in continuing indefinitely the treatment with mercury, arsphenamin and the iodids. During this time, every precaution should be observed to prevent untoward results from the treatment. These cases should be under constant observation, with repeated and searching clinical examinations, and frequent microscopic examinations of the urine. The treatment should be carried on at proper intervals with arsphenamin, mercury and iodids in the interim, and there is no limit to the amount or number of doses than can be given before the Wassermann reaction finally becomes negative, and the symptoms that have demanded the urgent treatment subside. In resistant cases, it has been suggested that other drugs be tried. Kolmer prefers to use bismuth, according to the plan of Emery and Morin of Paris. The two most suitable preparations are hydrated bismuth oxid, which may be given intramuscularly, and colloidal bismuth, which may be given intravenously. The action of bismuth resembles that of mercury, and it is suggested that it be used in conjunction with an arsenical preparation. Sutton and others have obtained good results with silver arsphenamin; but the danger of producing argyria should not be overlooked.

Polycystic Kidney

DR. JOSEPH H. SMITH, Memphis: In polycystic tumors of the kidneys, the parenchyma of the kidney is generally entirely destroyed, the cystic degeneration filling the entire capsule. The cysts vary in size and, not being urinous in nature, have no communication with the sinus of the kidney. Their contents vary, some containing pus, some coagulated blood and others a watery or gelatinous substance. Most authorities contend that this condition is always bilateral. The case reported is doubly interesting from the fact that roentgenograms and kidney tests do not show that the opposite kidney is affected.

It is possible that the opposite kidney has undergone some degeneration which is not discernible. This condition is not surgical in nature when the cystic change is bilateral and the function of both kidneys is greatly impaired. In the bilateral cystic kidney some relief can be obtained by puncture of the cysts.

Intraperitoneal Injections in Children

Dr. Oliver W. Hill, Knoxville: In many hands, intraperitoneal injections have proved a safe and efficient way to furnish fluid. This method of combating loss of water is not to be used only as a last resort, but should be employed before dehydration has resulted in such serious damage to the kidney that it cannot resume its function, and before marked metabolic changes and protein destruction have occurred in the body. The indication for intraperitoneal injection is present in any condition that is accompanied by dehydration. In gastro-intestinal diseases, whether acute or chronic, that are characterized by vomiting and diarrhea of sufficient intensity to cause rapid loss of fluid from the body, dehydration of some degree is always present. Other conditions which are not primarily gastro-intestinal will frequently produce grave dehydration. To the solution injected into the peritoneal cavity, various substances have been added. Ten per cent. glucose has been used and also from 2 to 3 per cent. sodium bicarbonate. The use of glucose has been recommended because it is easily utilized and has a definite caloric value. As a carbohydrate, glucose also spares protein destruction. It has been asserted that sodium bicarbonate used in intraperitoneal injections has an effect on acidosis. Some authors recommend Ringer's solution. The majority of pediatricians find that as good results are obtained by the use of simple physiologic sodium chlorid solution as when other substances are added. With the salt solution alone there is less tendency to abdominal distention after the injection. In the light of present knowledge, it is better to introduce glucose or sodium bicarbonate intravenously if their use is so urgently indicated that administration by mouth will not suffice.

Traumatic Peritonitis from Nonpenetrating Violence

Dr. E. H. Baird, Dyersburg: In three cases there was no rupture of the intestines, but severe peritonitis was present in all. In such cases there seems to be a paralysis of the intestines, sometimes accompanied by dilatation of the stomach, with the usual train of symptoms: shock, vomiting of black liquid, rapid pulse, drawn expression, etc. In spite of the most energetic treatment, one patient in whom perforation did not occur died with the clinical picture of acute intestinal obstruction. In such cases there is doubtless a disturbance of the nerve control of the intestinal musculature producing a sort of paralytic ileus. The postoperative treatment is as important as the operative, and must be directed toward combating the paralysis of the intestinal wall and overcoming the effects of sepsis. The usual measures employed for this purpose, such as strychnin and other stimulants, proctoclyses of soda or other substances used by the operator, intravenous glucose injections or intravenous saline solution if there has been much hemorrhage, or even transfusion, must be faithfully and energetically carried out. Gastric lavage frequently and high enemas are essential. Morphin, according to indications, for pain and shock is advocated; also the position of the patient in bed most favorable to drainage should be maintained, as in any peritonitis, and the usual precautions as to undue pressure on viscera from drainage tubes, the time of their removal, etc., should be employed as indicated in each individual case.

Pelvic Infections

Dr. H. M. Tigert, Nashville: The vast majority (perhaps from 80 to 85 per cent.) of all cases of chronic pelvic infections from an etiologic standpoint fall into one of two classes: the gonococcic, which is by far the larger, or the streptococcic group. The biologic and pathologic manifestations of these two micro-organisms differ widely, and a full understanding of these differences is essential to the intelligent and successful surgical management of women affected with them. The majority of gonorrheal infections are arrested at the internal os, where they may remain latent for long periods awaiting a favorable opportunity for further extension. The endometrium, when infected, shows remarkable recuperative powers, whereas the converse is true of the oviducts, with their ciliated epithelial lining. Indiscriminate curettage is not infrequently the determining factor in a fateful extension. Once past the bar of the internal os, from whatever cause, one may expect to find endometritis, salpingitis, pelvic peritonitis and oophoritis, in varying degrees of intensity, with later pyosalpinx or ovarian, tubo-ovarian, or pelvic abscess. Unlike the gonococcus, the streptococcus penetrates the walls of the uterus and attacks the connective tissue. Thence it often spreads into the peritoneum, and produces peritonitis which is often fatal. Occasionally it may happen that the streptococci extend directly from the uterine cavity into the peritoneal cavity by way of the tubes, but such cases are exceedingly rare, and are usually fatal. If a patient survives such an attack and later presents herself for examination, it will be found in almost every case that the pelvic connective tissue has become involved in the process. It has been demonstrated that nearly all streptococcic masses in the pelvis are parametrial in whole or in part. The parametric mass is usually situated low down in the base of the broad ligament, is very hard and dense, and appears to blend with adjacent structures. At times the density may be almost of cartilaginous consistency. Streptococci do not spontaneously invade the nonpuerperal uterine cavity, but in virtually every instance can be traced directly to labor, abortion, miscarriage or intrauterine manipulation.

The Hypophysis and Some of Its Disorders

Dr. M. L. Graves, Galveston, Texas: Efforts to discover the function of the gland and its active principles have been made by many experimenters in animal and man. Feeding experiments with the whole gland or its constituent portions have been undertaken with some degree of success. In 1916, Robertson isolated tethelin, and demonstrated by feeding experiments that it produced the same effects on growth as anterior lobe and also increased tissue repair and stimulated the growth of pathologic tissues, such as carcinoma. In summing up the work of various authors, the weight of evidence inclines to the belief that the anterior lobe and particularly its active principle, tethelin, have a very large influence in body growth, sexual development and certain other functions. The posterior lobe has perhaps definite, though disputed, influence on carbohydrate metabolism, the secretion of urine, the equilibrium of vascular tension, the activities of the smooth muscles of the body, the stimulation of mammary secretion, and perhaps in conjunction with the anterior lobe, effects on the chemistry of the body not yet clearly understood. Clinical phenomena have been accumulating for many years and point with great emphasis to disorders in structure and function of this important little gland in the production of several well-known and other ill-defined diseases.

Carbon Monoxid Asphyxiation.—The Ohio State Department of Health reported eighty-one cases of carbon monoxid asphyxiation with thirty-four deaths during the first ten weeks of the past winter. The most frequent source of the carbon monoxid is the incomplete combustion of coal gas, natural or artificial, in domestic heating appliances. Regulation of the proportion of air to gas is of the greatest importance. Artificial gas requires about five times, and natural gas ten times, as much air as gas for complete combustion. The pressure under which gas is delivered from the mains may vary sufficiently, from hour to hour, to disturb the proportion of air-gas mixture; hence it is never safe to leave even a well adjusted burner operating for any length of time without efficient ventilation. Devices of the so-called "smoke consuming," "odorless" and "chimneyless" type for gas heaters are absolutely unreliable; in fact, no heater can be considered safe from the danger of pouring carbon monoxid into the air unless it is provided with a flue, though open windows and free draft lessen the danger. There is some evidence to show that if amounts of carbon monoxid, insufficient to be immediately fatal, are absorbed over an extended period, the result will be exhaustion and lowered vitality with increased susceptibility to disease, especially pneumonia.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

64: 1-181 (March) 1923

Conditions Determining Suprarenal Secretion. F. A. Hartman, H. A. McCordock and M. M. Loder, Buffalo.—p. 1.
*Effect of Restricted Diet. II. On Pubescence and Menopause. J. R. Slonaker and T. A. Card, San Francisco.—p. 35.
*Supposed Relation of Suprarenals to Blood Pressure Response During Cerebral Anemia. J. M. Rogoff and H. C. Coombs, New York.—p. 44.
*Laxative Action of Yeast. J. R. Murlin and H. A. Mattill, Rochester, N. Y.—p. 75.
Relative Physiologic Value of Spectral Lights. III. Pupillomotor Effects of Wave Lengths of Equal Energy Content. H. Laurens, New Haven, Conn.
Effects of Extirpation of Embryonic Ear and Eye on Equilibration in Amblystoma Punctatum. W. F. Greene and H. Laurens, New Haven, Conn.—p. 120.
Influence of Hydrogen Ion Concentration on Fertilization and Growth of Certain Marine Eggs. G. H. A. Clowes and H. W. Smith, Woods Hole, Mass.—p. 144.
Blood Clotting in Mammals, Birds and Reptiles. S. E. Dorst and C. A. Mills, Cincinnati.—p. 160.
Effect of Restricted Diet. III. On Number of Litters and Young Born. J. R. Slonaker and T. A. Card, San Francisco.—p. 167.
*Influence of Antineuritic Vitamin on Internal Organs of Single Comb White Leghorn Cockerels. A. J. Souba, St. Paul.—p. 181.

Effect of Restricted Diet on Sexual Life of Rat.—Slonaker and Card noted that, in rats, a restricted diet delayed pubescence, shortened the period of sexual activity, and increased sterility.

Blood Pressure During Cerebral Anemia.—Rogoff and Coombs investigated the supposed relation of the suprarenals to the vasomotor phenomena brought about by cerebral anemia induced by occluding the head arteries for short periods. They found that the number of vasomotor responses to cerebral anemia that can be elicited in an animal depends greatly on the basal level of blood pressure that is maintained in the intervals between occlusions of the head arteries. When the basal level of blood pressure approaches or reaches the spinal level, and occlusion of the head arteries fails to elicit a vasomotor response, it is possible to improve the condition of the bulbar centers by elevating the blood pressure through intravenous injection of Ringer's solution, and again to obtain the usual response to cerebral anemia. This can, frequently, be repeated successfully a number of times in the course of an experiment. The so-called "dissociation" or "double" curve is not a constant phenomenon. It may appear and disappear (and again reappear) at various periods in the course of an experiment, or it may be entirely absent. There is no significant difference, in the ordinary average number and the usual character of the responses to occlusion of the head arteries, between normal animals and animals in which the epinephrin secretion is interfered with by ligating, excising or clipping off the suprarenals in acute experiments, or that have survived operations for interference with epinephrin secretion. The so-called "dissociation" or "double" curve is elicited as frequently after interference with epinephrin secretion as in normal animals. It is evident, therefore, that "suprarenal activity" (epinephrin secretion) is not necessary for eliciting any of the vasomotor effects which result from acute cerebral anemia.

Laxative Action of Yeast.—The plan of investigation followed by Murlin and Mattill contemplated the use of both human and animal subjects. In the first series, ten students were placed on a nearly constant diet alternately in periods with and without yeast. In the second series five human subjects were placed on a more rigidly constant diet and in the same manner periods with yeast added alternated with periods in which no yeast was used. In the first series there was a measurable increase in the bulk of stool, which persisted for several days after the ingestion of yeast was stopped. In the second series a laxative effect was proved both by increased weight in the great majority of the tests and increased moisture in two thirds of the tests. The estimation of phenols in the feces and urine indicates that putrefaction is somewhat diminished by the ingestion of yeast. Boiled yeast does not produce so much laxative effect (moisture and weight) as raw yeast. It is more easily digested than raw yeast.

Influence of Antineuritic Vitamin on Cockerels.—Single comb white leghorn cockerels, on a diet deficient in vitamin B and apparently adequate in all other particulars, showed a decrease in the size and weight of organs in the following order: testes, spleen, heart, liver, kidneys, pancreas and thyroid gland. A diet deficient in vitamin B and apparently adequate in all other particulars gave rise to an increased weight of suprarenals when computed per kilogram body weight. The testes of single comb white leghorn cockerels were affected to a greater extent than the other organs by a diet low in vitamin B. These organs not only failed to develop but there was also an ultimate atrophy. The observations of Karr and Cowgill, that some relationship exists in animals between desire to partake of food and water soluble vitamin, has been confirmed in Souba's study on poultry.

American Journal of Tropical Medicine, Baltimore

3: 73-158 (March) 1923

*Dengue Fever. Report of Galveston Epidemic of 1922. L. Rice, Galveston, Texas.—p. 73.
Ticks of Panama, Their Hosts, and Diseases They Transmit. L. H. Dunn, Ovid, N. Y.—p. 91.
*Yellow Fever in Mexico. M. E. Connor, New York.—p. 105.
*Pathology of Leishmaniosis of Nose. O. Klotz and H. Lindenberg, São Paulo, Brazil.—p. 117.
Bronchial Spirochetosis. L. S. Huizenga, Nanking, China.—p. 143.

Dengue Epidemic in Galveston.—About 30,000 cases of dengue occurred in Galveston during the summer and fall of 1922, and observations on this epidemic form the basis of Rice's report. He studied 565 cases. The diagnosis is made on five principal points: (1) sudden onset with fever and a chill or chilly sensation; (2) aching pains which may be general, or localized in the head, back or legs; (3) suffused face and eyes; (4) normal or low leukocyte count with a relative lymphocytosis; (5) absence of jaundice and albuminuria. In addition to these fairly constant symptoms, there are usually noted: (1) soreness of the eyeballs and skeletal muscles; (2) prostration and loss of appetite; (3) alteration of taste. The symptoms should be confirmed by: (1) the appearance of a toxic rash; (2) termination of fever within three to seven days, and (3) the absence of any other disease to explain the symptoms. Pregnancy was not disturbed. Convalescence was slow and attended by a sense of weakness, fatigue, and soreness of the muscles, which lasted from one to six weeks. Immunity, at least partial, must be conferred, since only 108 recurrences were discovered. Treatment is simple and unsatisfactory. Salicylates, acetphenetidin, and codein sulphate for the pain; sponges, ice-caps, free intake of fluids, laxatives (not purges) and rest in bed constitute the known treatment. Drugs really have a doubtful place. The attack is self-limiting, and those who are carefully nursed do as well as those who take sedatives. All should remain in bed for two or three days after the temperature has subsided.

Yellow Fever in Mexico.—It is Connor's belief that yellow fever was present in Mexico long before the coming of the Spaniards, and that there have been in recent years at least three areas in which this disease has been to all intents and purposes, permanently endemic, namely, Yucatan, Vera Cruz and Colima. Probably there have been other endemic and pseudendemic areas. In this class Connor would place Campeche and Tabasco as centers which were at one time very active foci of infection, but from which the disease eliminated itself as the decadence of commerce caused migration of the population, thus bringing into play the principle of the failure of the human host. This principle was first developed and announced by Carter and has been of inestimable aid to the epidemiologist in shaping campaigns to eradicate yellow fever.

Pathology of Leishmaniosis of Nose.—This report comprises a study of fifteen cases of leishmaniosis of the nose, representing all stages of the disease from early nodular

swelling of the nasal mucosa to the late destruction of septum and alae. The lesion is one of a peculiar granuloma, having individual and characteristic tissue reactions, and passing through successive stages. The manner of development of the lesion of the nose suggests a metastatic distribution from the primary ulcer on the arms or legs. On the other hand, the centrifugal spread from the earliest point of infection, and the microscopic character of the local process suggests a lymphatic dissemination of the immediate neighborhood. The granuloma, beginning as a perivascular lymphocytic infiltration of the submucosa, passes through stages in which the plasma cells and endothelial cells gradually gain dominance and ends with the development of nodules largely composed of endothelial cells. These nodules may show central necrosis, or may undergo fibrosis. In the late stages, the accompanying endarteritis of the neighboring vessels leads to extensive ulceration and necrosis. The leishmania are almost constantly intracellular, within endothelial cells.

Archives of Internal Medicine, Chicago

31: 303-433 (March) 1923

*Roentgen-Ray Treatment of Toxic Goiter. J. H. Means and G. W. Holmes, Boston.—p. 303.

Correlation of Vital Capacity with Stem Height. W. L. Rogers, San Francisco.—p. 342.

*Clinical Report on Use of Quinidin Sulphate. L. E. Viko, H. M. Marvin and P. D. White, Boston.—p. 345.

Enlargement of Hemal Nodes. M. Lederer, Brooklyn.—p. 364.

*Detoxification of Cyanids. I. Factors Influencing Detoxification of Cyanids in Health and Disease. M. Bodansky and M. D. Levy, Galveston, Texas.—p. 373.

*Blood Gases in Case of Paroxysmal Tachycardia. E. P. Carter and H. J. Stewart, Baltimore.—p. 390.

*Cardiovascular System in Thyroid Disease. W. J. Kerr and G. C. Hensel, San Francisco.—p. 398.

Case of Rheumatic Fever with Cerebral Symptoms Simulating Encephalitis Lethargica. L. F. Frissell, New York.—p. 411.

*Gravimetric Estimation of Phosphates of Blood. Phosphates in Nephritis. W. J. Fetter, Pittsburgh.—p. 413.

Increase of Certain Vagal Effects with Increased Age. N. C. Gilbert, Chicago.—p. 423.

Exophthalmic Goiter and Involuntary Nervous System. L. Kessel, C. C. Lieb and H. T. Hyman, New York. III. Fifty Consecutive Cases of Exophthalmic Goiter. L. Kessel, H. T. Hyman and H. Lande, New York.—p. 433.

Roentgen-Ray Treatment of Toxic Goiter.—The data presented by Means and Holmes are interpreted as showing that the roentgen ray probably has a beneficial effect in cases of toxic goiter, and that for that reason it has its place in the armamentarium for treating these diseases. About two thirds of the patients with exophthalmic goiter so treated show either recovery or improvement coincident with the treatment. The remaining third neither improve nor grow worse. In exophthalmic goiter, when treated by the roentgen ray, if good results are not secured in a few months, surgery should be employed. Prolonged roentgen-ray treatment in patients showing no response is undesirable. Some patients with exophthalmic goiter who are not cured by the roentgen ray are, perhaps, made better operative risks by it. A combination of the two forms of treatment may sometimes accomplish more than either alone. In toxic adenoma there seems to be a similar improvement to that noted in exophthalmic goiter, but so far the authors have used it only with patients who have refused operation. In toxic adenoma, in contrast to exophthalmic goiter, surgery probably removes the actual cause of the disease, the adenoma. The indication for surgery would, therefore, seem more definite than in exophthalmic goiter. Even in toxic adenoma, however, in certain cases that are too thyrotoxic for safe operation, the roentgen ray may be used to advantage. To make a proper use of the roentgen ray in the management of toxic goiter of either variety, its limitations should be recognized and it should be correlated intelligently with other therapeutic measures, as the individual case may demand.

Quinidin Sulphate in Nonparoxysmal Auricular Fibrillation.—Of the seventy-five largely unselected cases of nonparoxysmal auricular fibrillation or auricular flutter in this series reported by Viko, Marvin and White, approximately two thirds were restored to normal rhythm by quinidin and approximately one third (twenty-six cases) still maintain normal rhythm. Other factors being equal, the rheumatic and arteriosclerotic types of heart disease respond to the drug equally well. The presence or absence of valvular disease in itself is not an important factor in determining response to quinidin. The duration of the heart symptoms is of importance as a factor in determining response only so far as it is associated with two other factors: the duration of auricular fibrillation and the degree of congestive failure. The most important factor in determining both restoration of normal rhythm and its maintenance is the duration of the auricular fibrillation. Cases with fibrillation of short duration (under six months) are not only more likely to be restored to normal but are much more likely to maintain it even without rationing, and, as a rule, give the best clinical results. The second most important factor in determining response to quinidin is the presence or absence, past or present, of objective congestive failure. Cases with objective failure are restored to normal rhythm about as frequently as those without such failure; the former, however, relapse very much more frequently. All cases showing objective congestive failure or tachycardia should probably be digitalized before beginning quinidin treatment. Though most cases responding to quinidin do so with small dosage, many of the most satisfactory cases require large dosage. This is apparently independent of the duration of fibrillation. Proper rationing with quinidin after restoration of normal rhythm will reduce the number of relapses. Embolism and sudden death (possibly also due to embolism) occurring under quinidin therapy are probably most likely to occur in cases with fibrillation of long duration and those where there is objective congestive failure at the time or in the past. Hence, the cases most likely to yield serious untoward results are the cases least likely to obtain a maintained normal rhythm from quinidin. A fair percentage of cases, particularly those with recent fibrillation and little or no objective congestive failure, receive definite benefit from restoration of normal rhythm—benefit apparently additional to that obtainable from digitalis alone. The clinical results appear to justify the use of the drug in cases with fibrillation of short duration and with little or no congestive failure. For the present quinidin should probably not be used in a routine way in other types of cases. For the present, at least, quinidin should be used in hospitals where careful observation and electrocardiographic control is possible. Quinidin will probably prove of much value in the prevention and treatment of paroxysmal auricular fibrillation. The data at present available are inconclusive regarding the value of quinidin in treating cases with premature beats. Quinidin is not indicated for the treatment of heart block.

Detoxification of Cyanids.—A functional test is proposed by Bodansky and Levy for the determination of the "cyanid detoxifying capacity" in man.

Blood Gases in Paroxysmal Tachycardia.—A case of auricular paroxysmal tachycardia was studied by Carter and Stewart from the point of view of the blood gases. The findings include: (1) Marked decrease of the arterial oxygen saturation without demonstrable pulmonary congestion to account for this. (2) Extremely low carbon dioxid content of the arterial blood during the paroxysm. (3) Very low oxygen saturation of the venous blood, part of which was attributable to the anoxic anoxemia, but the greater part was a true stagnant anoxemia due to slowing of the circulation. This stagnant anoxemia had entirely disappeared one hour after the end of the attack. (4) Greatly increased coefficient of utilization during the paroxysm, indicating a very slow circulation rate. (5) Decrease in vital capacity immediately following the paroxysm. In addition, there appeared to be a close connection between an acute infection and the disturbance of the cardiac mechanism. It was also noted that during quinidin-sulphate therapy ectopic beats which had been numerous and troublesome disappeared.

Cardiovascular System in Thyroid Disease.—Kerr and Hensel report the cardiovascular condition of 181 patients with thyroid disease, 123 being classified as cases of adenoma and fifty-eight as cases of hyperplasia. It was evident that the cardiac signs and symptoms in toxic adenoma and hyperplasia differ only by the degree of toxicity. The vascular

changes are more marked in the cases of hyperplastic goiter. Cardiac irregularities are more common than is generally recognized. Auricular fibrillation or auricular flutter, usually paroxysmal in type, occurred in about one-third of all toxic cases. The authors believe that such paroxysmal attacks explain the periods of palpitation which are described by a large percentage of patients. The prognosis depends in large measure on the condition of the circulation. If surgical treatment is to be carried out, the "time and extent of the operation should be governed by the circulatory condition." Treatment of the thyroid heart depends on the stage of the disease. In all cases every measure should be employed to relieve the myocardium. Rest is essential. Sedative drugs are of some value. Elimination should be kept up. Digitalis is of great value in controlling auricular fibrillation and may be of value in preventing paroxysmal attacks. The amount required in controlling auricular fibrillation is usually less than in ordinary cardiac cases. It should be continued over long periods. Decompensation should be treated as in other myocardial cases. The electrocardiogram is of value in recognizing myocardial changes, in differentiating the types of irregularities and in prognosis.

Gravimetric Estimation of Phosphates of Blood.—A gravimetric method for the estimation of the inorganic and total phosphates in whole blood is described by Fetter. The results are recorded of a number of analyses carried out on normal persons, in cases of chronic nephritis and in cases of nephritis with acidosis. A suggestion is put forward as to the line of treatment to be adopted in relation to the findings of blood phosphates.

Archives of Ophthalmology, New Rochelle, N. Y.

52: 105-170 (March) 1923

Virus of Herpes Simplex. J. S. Friedenwald, Boston.—p. 105.
Case of Mesoblastic Leiomyoma of Iris. F. H. Verhoeff, Boston.—p. 132.
Case of Amaurotic Family Idiocy in Infant Not of Jewish Parentage. M. Cohen, New York.—p. 140.
Tuberculoma of Orbital Cavity. D. Roy, Atlanta.—p. 147.
Therapeutic Use of Weak Atropin Solution in Asthenopia. W. E. Gamble, Chicago.—p. 160.
Oil Cyst of Orbit. Removed by Krönlein's Operation. A. Knapp, New York.—p. 163.
Blocking Main Trunk of Facial Nerve in Cataract Operations. R. E. Wright, Madras, India.—p. 166.
Case of Melanosarcoma of Conjunctiva. A. S. Fernando, Manila.—p. 168.
Survey of Cases in Free Dispensary of Philippine General Hospital. A. S. Fernando, Manila.—p. 170.

Boston Medical and Surgical Journal

188: 477-522 (April 5) 1923

Postoperative Swelling of Upper Extremity, Following Operations on Breast and Axilla. W. E. Hartshorn, New Haven, Conn.—p. 477.
Diabetes Mellitus Complicating Surgery. A. T. Jones, Providence, R. I.—p. 483.
Postoperative Intra-Abdominal Adhesions. R. H. Seelye, Springfield, Mass.—p. 489.
*Clinical and Pathologic Study of Tonsils Subjected to Roentgen Ray Treatment. C. R. C. Borden, Boston.—p. 493.
Prompt Action of Radium Radiations in Treatment of Small or Large Infected Tonsils and Lingual Tonsils. F. H. Williams, Boston.—p. 497.
*Nontuberculous Pulmonary Abscess. W. Whittemore, Boston.—p. 499.

Effect of Roentgen Ray on Tonsils.—Fourteen cases of diseased tonsils irradiated with the roentgen ray from one to four times failed to show any clinical or pathologic changes as a result of the irradiation, except that during the times the radiations were being given many of the tonsils seemed to be smaller and more normal in appearance, but when subsequently removed by dissection no real change in size appeared to have taken place. After irradiation many of the tonsils appeared to be normal in size and color, but at the time of operation a number of them were found to be filled with pus or cheesy débris. As a method of reducing bleeding and assisting dissection at the time of operation, Borden says, such irradiation is useful. By diminishing oversecretion from the mucous surfaces of the throat it decidedly decreases the possibility of postoperative pneumonia or lung abscess following throat operations. In cases wherein diseased tonsils may justly be suspected of producing secondary infections in the joints, heart, kidney or other important organs, roentgen-ray irradiations are inadequate.

Treatment of Nontuberculous Pulmonary Abscess.—Whittemore prefers to give each patient a chance to cure himself by postural drainage and by building up his general condition before operation is advised. But, if at any time the patient's condition ceases to improve or becomes worse, operation should be performed. If there is not any improvement in three or four weeks, operation should be considered. Whittemore believes that the chances for a permanent cure are much better if the patient is operated on while the condition is subacute rather than if surgical treatment is delayed until the condition becomes chronic.

Journal of Experimental Medicine, Baltimore

37: 303-395 (March) 1923

*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. XI. Antibodies in Blood After Recovery from Epidemic Influenza. P. K. Olitsky, and F. L. Gates, New York.—p. 303.
*Cultivation of Anaerobic Treponemata on Surface of Blood Agar Plates. F. L. Gates, New York.—p. 311.
*Changes Produced by Roentgen Rays in Inflamed Connective Tissue. A. A. Maximow, Chicago.—p. 319.
Etiologic Significance of Vibrio Fetus. T. Smith, Princetown, N. J.—p. 341.
Increased Absorption of Roentgen Rays by Vitally Stained White Rats. W. M. Baldwin, Albany.—p. 357.
*Chemical Changes in Blood of Dog After Intestinal Obstruction. R. L. Haden and T. G. Orr, Kansas City, Kan.—p. 365.
*Chemical Changes in Blood of Dog After Pyloric Obstruction. R. L. Haden and T. G. Orr, Kansas City, Kan.—p. 377.
*Immunity Studies of Rocky Mountain Spotted Fever. I. Usefulness of Immune Serum in Suppressing an Impending Infection. H. Noguchi, New York.—p. 383.
Studies on Total Bile. I. Effects of Operation, Exercise, Hot Weather, Relief of Obstruction, Intercurrent Disease, and Other Normal and Pathologic Influences. P. D. McMaster, G. O. Broun and P. Rous, New York.—p. 395.

Bacteriologic Study of Nasopharyngeal Secretions in Influenza.—Although *Bacterium pneumosintes* is a stable organism which agglutinates only in low dilutions of the serum of actively immunized rabbits, Olitsky and Gates have always found the serologic reactions of this micro-organism to be consistent and specific. The results of the agglutination and precipitation reactions described by them indicate that the serum of normal persons does not contain demonstrable agglutinins or precipitins for *B. pneumosintes.* By contrast, agglutinins have been demonstrated in the serum of seventeen persons among nineteen who were examined from ten days to five months after recovery from epidemic influenza. The serum of ten persons who had influenza, followed in three instances by pneumonia, from two and one-half to three and one-half years before, proved negative. In one instance the appearance of specific agglutinins against *B. pneumosintes* was found to be coincident with an attack of uncomplicated influenza. In twelve of fifteen instances in which agglutinins were found, precipitins against *B. pneumosintes* were demonstrated also. It is noteworthy that these antibodies may persist in the blood at least five months after recovery from the disease.

Cultivation of Anaerobic Treponemes on Surface of Blood Agar Plates.—By a method of anaerobic cultivation that proved successful with *Bacterium pneumosintes,* characteristic surface colonies of old saprophytic strains of *Treponema pallidum* and *Treponema calligyrum* have been obtained by Gates. The medium used consisted of ordinary nutrient agar, made with beef infusion peptone broth, to which from 5 to 7 per cent. of fresh, sterile, unheated, defibrinated rabbit blood was added just before the plates were poured.

Changes Produced by Roentgen Rays in Inflamed Connective Tissue.—Maximow studied the reaction of inflamed tissue, the result of a foreign body, to the roentgen ray. He noted that irradiation produced a considerable depression of the usual reaction on the part of the fibroblasts. They remain idle, do not multiply at all, or start very late and often the division is abnormal. Simultaneously with these changes of the fibroblasts, an intensive edema of the connective tissue surrounding the foreign body is to be noted and in the immediate neighborhood of the latter a thick layer of netlike clotted fibrinous exudate is formed. No distinctive qualitative changes could be found in the leukocytes and polyblasts. The rate and the duration of the emigration of all the cells coming from the blood were increased, and there

was always a distinct delay in the process of the common transformations usually undergone by the polyblasts on the field of inflammation. The transformation of the polyblasts into fixed resting forms seems above all to be delayed. In the blood vessels swelling of the endothelial cells, with fragmentation of the nuclei, and, in the striated muscles, degeneration of the fibers can be detected. In the latter there occur partly typical coagulation necrosis, partly atrophy, accompanied by loss of striation, separation of fibrillae from one another, relative increase of sarcoplasm, and amitotic division of nuclei. These results seem not to agree with the predominating views on the action of roentgen rays on cells.

Chemical Changes in Blood After Intestinal Obstruction.—A study of the nonprotein nitrogen, urea nitrogen, uric acid, creatinin, amino-acid nitrogen, sugar and chlorids of the blood, and the carbon dioxid combining power of the plasma, in normal dogs, and in dogs after different types of intestinal obstruction, is reported on by Haden and Orr. Following ligation of the duodenum, ligation of the duodenum with gastro-enterostomy, and ligation of the upper half of the ileum, a fall in chlorids and a rise in the nonprotein nitrogen and urea nitrogen of the blood and in the carbon dioxid combining power of the plasma occur. The uric acid, creatinin, amino-acid nitrogen and sugar show no significant changes. The fundamental change is a fall in chlorids followed by an alkalosis. The degree of alkalosis depends on the rate of formation of carbonate, rate of excretion by the kidneys, and extent of neutralization of the carbonate by acid bodies formed during the intoxication. The fall in chlorids is probably due to utilization of the chlorin ion in the course of the intoxication. It is suggested that this use of chlorin is a protective measure on the part of the body. There are indications that high intestinal obstruction should not be treated by the administration of alkalies. The urea nitrogen is a good index of the protein destruction. Ligation of the ileum at the ileocecal valve is followed by little increase in nitrogen and no change in the chlorids or carbon dioxid combining power of the plasma. The close similarity of the blood findings in intestinal obstruction, acute lobar pneumonia, and serum disease suggests that these widely different conditions may have a common chemical basis.

Chemical Changes in Blood After Pyloric Obstruction.—The observations of other workers that a fall in chlorids and a rise in carbon dioxid combining power of the plasma occur, are confirmed by Haden and Orr. There is also a marked rise in the nonprotein nitrogen of the blood, consisting mainly of urea nitrogen and undetermined nitrogen. The fall in chlorids is not due to the loss of chlorids in the gastric juice. The chlorin is probably bound somewhere in the process of protein destruction. There is a close relation between the fall in chlorids and the protein destruction. The chemical changes following pyloric obstruction are essentially the same as those following high intestinal obstruction.

Immunity Studies of Rocky Mountain Spotted Fever.—From the results of the experiments presented by Noguchi it is evident that in guinea-pigs an early administration of immune rabbit serum will suppress the infection; that is, if it is given within the period of incubation, the effect being proportionately greater the earlier the serum is administered. Almost no beneficial effect is observed when the serum is given after the onset of the disease. In view of the comparative susceptibility of man and the guinea-pig it is recommended that in every instance when the bite of a tick gives reason to suspect a possible infection with spotted fever, or when a person accidentally inoculates himself with the virus, about 0.2 c.c. of the serum per kilogram of body weight (or 0.1 c.c. per pound) be injected immediately, preferably intravenously. For the average adult about 16 c.c. should be given.

Journal of Infectious Diseases, Chicago

32: 175-246 (March) 1923

Factors Controlling Intestinal Bacteria. Influence of Hydrogen-Ion Concentration on Bacterial Types. P. R. Cannon and B. W. McNease, University, Miss.—p. 175.
Paths of Infection by Bacterium Abortus in Rabbits, Guinea-Pigs and Mice. E. S. Sanderson and L. F. Rettger, New Haven, Conn.—p. 181.
Structure of Complement. I. L. Kritchevsky and A. I. Douchowsky, Moscow, Russia.—p. 187.
*Relation of Immunity Reactions to Biogenetic Law. Investigations of Chemical Structure of Protoplasm of Animals During Embryonic Development by Means of Heterogeneous Hemolysins. I. L. Kritchevsky, Moscow, Russia.—p. 192.
*Heterogenous Anaphylaxis. I. L. Kritchevsky, Moscow, Russia.—p. 196.
*Fusiform Bacilli and Spirochetes. III. Occurrence in Normal Women About Clitoris and Significance in Certain Genital Infections. I. Pilot and A. E. Kanter, Chicago.—p. 204.
*Bacillus Welchii in Bread. S. A. Koser, Washington, D. C.—p. 208.
*Bacteriostatic Action of Dyes on Streptococcus Viridans and Pneumococci. J. F. Norton and G. E. Davis, Chicago.—p. 220.
*Weil-Felix Reaction in Rocky Mountain Spotted Fever. F. L. Kelly, Berkeley, Calif.—p. 223.
*Invasion of Body by Bacteria from Intestinal Tract. W. B. Moody and E. E. Irons, Chicago.—p. 226.
Studies in Comparative Immunity. I. Resistance of Frog to Staphylococcus Aureus. F. L. Pickof, Chicago.—p. 232.
Growth of Pfeiffer Bacillus in Mixed Culture in Blood-Free Medium. A. F. Reith, Chicago.—p. 243.

Immunity Reactions and the Biogenetic Law.—Investigations were made by Kritchevsky of the chemical structure of the protoplasm of animals during embryonic development by means of heterogeneous hemolysins. He found that the hen's egg and the formative yolk do not contain heterogeneous sheep antigen. In earlier phases of the development (two days), the protoplasm of the hen embryo does not possess heterogeneous sheep antigen. The heterogeneous sheep antigen producing hemolysins against red corpuscles of sheep appears only in relatively advanced periods of the development of the hen; that is, not before four days after the division of the egg began. Therefore, Kritchevsky says that the biochemical properties of animal cells are subject to transformation during ontogenetic development.

Heterogenous Anaphylaxis. — Kritchevsky's belief that rabbits immunized with red corpuscles of the hen should produce not only hemolysins, but also heterogenous anaphylactic antibodies, as occurs with homologous antibodies, was confirmed by experiments. The animals that presented the picture of heterogenous anaphylaxis always possessed heterogenous hemolysins, and in the majority of cases the anaphylactic phenomena were directly connected with the degree of the hemolytic titer.

Fusiform Bacilli and Spirochetes About Clitoris.—Fusiform bacilli and spirochetes were found by Pilot and Kanter in the normal smegma secretions of twenty-one of thirty-six pregnant women. In their morphology, they appeared to be identical with similar organisms in the preputial secretions of men. Associated with these bacteria were pyogenic organisms, including staphylococci, colon bacilli, diphtheroids and streptococci. The occurrence of fusiform bacilli and spirochetes with pyogenic bacteria in certain genital lesions is held to indicate that these organisms may be primary and secondary infecting agents causing ulcerative and gangrenous processes. The presence of these organisms normally would indicate that such processes may result, especially under conditions of lowered general resistance, and do not entirely depend on the introduction of these bacteria from other sources.

Bacillus Welchii in Bread.—A commercial bread starter, recommended for the purpose of securing a constant inoculum of a gas forming bacterium in the preparation of salt rising bread, was found by Koser to contain organisms of the *Bacillus welchii* type in numbers of about 1,000 per gm. The addition of this "starter" to milk, followed by an overnight incubation in a warm place, as called for in the directions for use, results in a light, frothy, gaseous mass. The predominating organism was found to be *B. welchii*, which was present in numbers of from 1,000,000 to 100,000,000 per gm. of material. Loaves of salt rising bread prepared by several bakeries using the starter in question contained spores of *B. welchii* in considerable numbers. Small quantities of bread from the interior of the loaves yielded the gas bacillus in almost every instance, in decided contrast to the results secured from the interior of the loaves of ordinary yeast bread in which the Welch bacillus was found rarely. Several cultures of the organism isolated from the starter and from the baked loaves were found to be in agreement in morphologic, cultural, and biochemical properties with a strain of *B. welchii* obtained originally from a wound and also with the published descriptions of this bacillus. The cultures obtained from the bread possessed only a low grade of viru-

lence for guinea-pigs, while the type *B. welchii* originally obtained from a wound and used for comparison was highly pathogenic. All available evidence indicated that the *B. welchii* incorporated in the "starter" is the active agent concerned in the preparation of the salt rising bread. This was substantiated by the fact that on substitution of an authentic *B. welchii* strain (with a history of wound infection for the strain) in the bread starter, loaves of salt rising bread were prepared comparable to those obtained by the use of the starter.

Bacteriostatic Action of Dyes on Streptococcus Viridans.—Of the forty-one dyes used by Norton and Davis in their experiments only sixteen showed bacteriostatic action in dilutions of 1:1,000 or greater. Of the sixteen dyes which showed bacteriostasis, eight belonged to the triphenylmethane group and six to the diphenylamines. Of the two remaining, one was an azo and the other a diazo compound. Of the eight triphenylmethanes, six were triamino compounds and two were diamino compounds. There was no difference between the action of the dyes on the strains of *Streptococcus viridans* and those of the pneumococci. A survey of the chemical structure of these dyes shows that, with one exception, all contained three benzol rings, either attached to a single carbon atom as in triphenylmethane, or connected as in anthracene. In some cases, a ring carbon atom is substituted by nitrogen. In addition to the three benzol rings, all these active dyes contain two or more amino groups. The hydrogen atoms in these groups were all substituted with alkyl radicals in those dyes showing the greatest inhibitory action. In most instances, this alkyl radical is the methyl group, but in brilliant green—the most active dye—ethyl groups are present. Acid dyes or salts of acid or basic dyes were inert. The substitution of an hydroxyl radical for a methyl group decreases the inhibitory power.

Weil-Felix Reaction in Rocky Mountain Spotted Fever.—The tests made by Kelly suggest that the Weil-Felix reaction is negative in Rocky Mountain spotted fever and may be of value in differentiating between this disease and typhus fever.

Invasion of Body by Bacteria from Intestinal Tract.—There seems to be no question, Irons says, as to the passage of certain resistant organisms, such as tubercle and anthrax bacilli, through the intact intestinal mucosa. Less resistant organisms rarely pass the intestine of healthy animals. Under conditions in which resistance to infection is decreased or when unusually hardy organisms enter the bowel, or when lesions of the bowel are present, Moody and Irons believe it is reasonable to suppose that bacteria may enter the blood stream from this source.

Journal of Nervous and Mental Disease, New York

57: 105-208 (Feb.) 1923.

*Total Immobilization in Extremities Through Hypertonia After Epidemic Encephalitis. K. Petrén and L. Brahme, Lund, Sweden.—p. 105.
*Cerebellar Syndrome Resembling Multiple Sclerosis. M. Q. Howard, Pueblo, Colo.—p. 128.
Pathology of Senile Psychosis. Differential Diagnostic Significance of Redlich-Fischer's Miliary Plaques. S. Uyematsu, Boston. (To be continued).—p. 131.

Immobilization of Extremities Following Encephalitis.—Petrén and Brahme observed a case of epidemic encephalitis, in which there was present almost complete immobilization of the body (only the ocular, respiratory, and swallowing movements being conserved). Though no true paralysis existed, as a consequence of the hypertonia no movements could be performed, nor were passive movements possible. A case of hemiplegia in which neither active nor passive movements were possible also was due to the hypertonia and not to a paralysis. In these two cases no reasons were found for a lesion of the pyramidal tracts. Babinski's sign was never present. In the second case the motility returned in some weeks, at first distally and then progressing in a proximal direction (in the lower extremity the dorsal flexion of the foot was the first returning function). It is assumed that the symptoms were due to a lesion of the extrapyramidal motor system.

Cerebellar Syndrome Resembling Multiple Sclerosis.—A case is reported by Howard which resembled both multiple sclerosis and the cerebellar syndrome called dyssynergia cerebellaris progressiva. Unlike the latter, there was a positive Babinski sign, cerebellar fits, greatly exaggerated tendon reflexes and an absence of vertigo. Sensory changes were present. Yet all the clinical manifestations of that condition, dyssynergia, dysmetria, hypotonia, adiadokokinesis and asthenia, as well as the intention tremor, were present. Howard believes that the case is probably one of atypical multiple sclerosis with more than the usual cerebellar involvement.

Maine Medical Association Journal, Portland

13: 195-214 (March) 1923

Colles' Fracture. C. C. Morrison, Jr., Bar Harbor.—p. 195.
Clinical Significance of Hematuria. C. H. Jameson, Thomaston.—p. 202.

Minnesota Medicine, St. Paul

March, 1923, **6**, No. 3

Future of Southern Minnesota Medical Association. W. F. Braasch, Rochester.—p. 127.
Congenital Hypertrophic Pyloric Stenosis. A. C. Strachauer, Minneapolis.—p. 131.
Use of Paravertebral Nerve Block Anesthesia in General Surgery. W. R. Meeker, Rochester.—p. 138.
*Nonspecific Irritation: Precipitating Cause of Anaphylactic Diseases of Infancy and Childhood. W. R. Shannon, St. Paul.—p. 154.
*Milk Transmission of Pollen Hay-Fever. E. T. Herrmann, St. Paul.—p. 161.
Relation of General Hospital to Tuberculosis Problem. A. T. Laird, Nopeming, Minn.—p. 162.
*"Local" Wassermann Reaction: New Diagnostic Aid in Primary Syphilis. D. Stern and H. Rypins, Minneapolis.—p. 167.
Results Obtained in Elephantiasis Through Kondoleon Operation. W. E. Sistrunk, Rochester.—p. 173.
Causes, Repair and Management of Cases of Postoperative Hernia. A. E. Benjamin, Minneapolis.—p. 178.
Chronic Intestinal Indigestion in Early Childhood. R. Taylor, Minneapolis.—p. 183.
Future of Medicine. J. C. Jacobs, Willmar.—p. 184.

Nonspecific Irritation Cause of Anaphylactic Diseases in Childhood.—Attention is directed by Shannon to the frequency with which certain diseases, alleged to be anaphylactic, are precipitated by local irritation of nonspecific nature. Experimental work on rabbits by Auer is quoted to show that the anaphylactic state increases the response of the animal tissues to local irritation. Analogous cases in man are cited in which neither the local irritation nor the anaphylactic state alone were sufficient to produce symptoms but in which the combination of the two produced the disease picture. In two cases local irritation did not produce symptoms after the anaphylactic state had been removed. In another case the reduction of local irritation did not permit relief from symptoms until the factor of anaphylaxis was cared for. It is therefore contended that the condition of anaphylaxis is the underlying factor which is responsible for the conditions mentioned and that the local irritation is merely a precipitating factor which would go unnoticed were its effects not augmented by the presence of the anaphylactic state.

Milk Transmission of Pollen Hay-Fever.—Herrmann asserts that ingestion of milk from a cow that has eaten ragweed tops produces clinical hay-fever within one-half hour after ingestion of the milk. Absence of gastro-intestinal symptoms following ingestion of one glass of milk and the appearance of selective anaphylactic phenomena in the upper respiratory tract may be due to chronic irritation and decreased resistance of tissues involved. Ragweed pollen protein is found apparently unchanged in the milk of cows that have eaten ragweed tops some hours earlier.

"Local" Wassermann Reaction New Diagnostic Aid in Primary Syphilis.—Stern and Rypins report the results they have obtained with the Klander and Kolmer "local" Wassermann test made on the surface serum of primary chancres. Out of forty-three cases, the blood Wassermann was positive in only thirteen and negative in thirty, or 69.8 per cent. The dark field was positive in all but two cases and negative in only two cases. The "local" Wassermann was positive in all cases, or 100 per cent., not only in the cases with positive dark fields, but also in the two cases with negative dark

fields, whose subsequent course showed them to be cases of primary syphilis. The test was negative on the serum from five proved nonsyphilitics. Treatment of the lesions with antispirocheticide, even when the spirochetes have disappeared, does not interfere with the reaction. The authors hold that the "local" Wassermann is a simple and practicable diagnostic procedure in primary chancre, and the reliability of the results obtained is comparable to those obtained by the dark field microscope.

Pennsylvania Medical Journal, Harrisburg

March, 1923, **26**, No. 6

Urinary Calculi and Sarcoma of Kidney in Children. H. T. Price, Pittsburgh.—p. 355.
Symposium on Headache. Headache from Ophthalmologic Standpoint. J. M. Griscom, Philadelphia.—p. 359.
Headache from Standpoint of Otologist. G. W. Mackenzie, Philadelphia.—p. 360.
Headache from Standpoint of Rhinologist. G. B. Jobson, Franklin.—p. 362.
Headache from Neurologic Point of View. C. W. Burr, Philadelphia.—p. 363.
Prognosis in Myocardial Disease. B. S. Oppenheimer, New York.—p. 371.
Vascular Hypertension; Etiologic Factors. J. Barach, Pittsburgh.—p. 373.
Practical Points in Diagnosis and Treatment. H. A. Hare, Philadelphia.—p. 377.
Epigastric Angina. R. Burns, Scranton.—p. 379.
Differential Diagnosis of Some Parasitic Infections of Hands and Feet. W. H. Guy and F. M. Jacob, Pittsburgh.—p. 384.
Behavior Disorders in Children. J. H. W. Rhein, Philadelphia.—p. 388.
Migraine. H. L. Foss, Danville.—p. 394.
Recent Developments in Surgical Research. J. E. Sweet, Philadelphia.—p. 396.

Philippine Islands Medical Association Journal, Manila

3: 1-18 (Jan.-Feb.) 1923

Splenic Enlargements in Malarious District of Philippines. R. G. Padua.—p. 1.
History of Medicine. F. H. Garrison.—p. 6.
Malaria in Children. I. Rosal, Manila.—p. 11.
Medical Impressions from Japan. O. Schobl.—p. 15.
Education Among Prostitutes. O. Alejandrino, Manila.—p. 18.

Public Health Journal, Toronto

14: 99-146 (March) 1923

Community Responsibility with Regard to Tuberculosis. A. F. Miller.—p. 99.
Clinical Aspects of Industrial Poisoning. N. C. Sharpe.—p. 110.
Child Health Program in British Columbia. V. S. MacLachlan.—p. 119.
Mental Hygiene in Toronto Public Schools. E. K. Clarke.—p. 127.

South Carolina Medical Association Journal, Greenville

19: 422-440 (March) 1923

Does Adult Tuberculosis Begin in Infancy Always? W. P. Cornell, Columbia.—p. 422.
Medical Practitioner and American Society for Control of Cancer. J. E. Rush.—p. 429.
Radiation. L. J. Ravenel, Florence.—p. 432.
Spinal Fluid and Syphilis. H. M. Smith, Columbia.—p. 437.
Tuberculosis as Public Health Problem in South. E. O. Knotts, Newberry.—p. 440.

Wisconsin Medical Journal, Milwaukee

21: 435-466 (March) 1923

Challenge of Chronic Patient from Public Health Standpoint. M. P. Ravenel, Columbia, Mo.—p. 435.
Relationship of Fatigue to Chronic Patient. E. H. Ochsner, Chicago.—p. 439.
Diverticulum of Stomach. Review of Literature with Report of Case. E. E. Tupper, Eau Claire.—p. 442.
Fractures of Anatomic and Surgical Necks of Humerus. V. F. Marshall, Appleton.—p. 446.
Medical Men and Institutions of Petrograd in 1917 and 1922. M. M. Zlatovsky, Duluth, Minn.—p. 452.
Decreased Intraocular Tension in Diabetic Coma. W. S. Middleton, Madison.—p. 458.
Pulmonary Syphilis with Associated General Arthritic Involvement. Report of Case. R. L. Gilman, Madison.—p. 459.
Multiple Toxic Adenoma of Thyroid. A. S. Jackson, Madison.—p. 461.
Studies on Heart Size. W. J. Meek, Madison.—p. 462.
Postmortem Acidosis. E. L. Severinghaus and A. E. Koehler, Madison.—p. 463.
Medical Practitioner and American Society for Control of Cancer. J. E. Rush.—p. 464.
Water-Borne Diseases with Relation to Public Water Supplies. W. W. Bauer, Milwaukee.—p. 466.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

March, 1923, **7**, No. 3

Case of Secondary Carcinomatous Infiltration of Pia-Arachnoid of Brain, Presenting Exclusively Ocular Symptoms During Life: Meningitis Carcinomatosa. F. M. R. Walshe.—p. 113.
Importance of Radiography in Doubtful Cases of Optic Atrophy with Special Reference to Pituitary Disease. R. E. Wright and T. W. Barnard.—p. 123.
Ladd Franklin Hypothesis of Color Vision. H. Hartridge.—p. 139.

British Medical Journal, London

1: 543-578 (March 31) 1923

The Drug Habit. W. E. Dixon.—p. 543.
Man's Posture: Its Evolution and Disorders. A. Keith.—p. 545.
Nature of Arteriosclerosis. G. Evans.—p. 548.
Ancylostome Infestation. C. Lane.—p. 551.
*Influence of Intestinal Bacteria on Thyroid Gland. D. J. Harries.—p. 553.
Treatment of Incipient Phthisis. W. Gordon.—p. 555.
Acute Puerperal Inversion of Uterus. C. S. L. Roberts.—p. 557.

Intestinal Bacteria and Thyroid Gland.—Harries summarizes his observations as follows: Exophthalmic goiter is due to the excessive absorption of tryptophan from the intestine; this, in turn, is traceable to the absence of the indol producers from the intestine. The absence of indican from the urine indicates the absence of indol producers from the intestine. In exophthalmic goiter the early disappearance of indican from the urine is of a serious prognostic importance. Operative surgery has a definite place in the treatment of exophthalmic goiter. Medically, much can be done by suitable dietetic measures. Diffuse parenchymatous goiter is characterized by an excess of indican in the urine, suggesting an excessive destruction of tryptophan. If this excess gives place to a diminution or complete disappearance of indican, it suggests that the case is assuming the exophthalmic form. Myxedema is due to atrophic changes in the thyroid gland, which loses its capacity for dealing with the circulating tryptophan, whether that substance be excessive, deficient, or normal in amount. The disease is thus compatible with the presence or absence of urinary indican.

Calcutta Medical Journal

17: 10-48 (Jan.) 1923

Kala-Azar. R. H. G. Bahadur.—p. 10.
Toxicity of Some Antimonial Compounds and Their Value in Treatment of Kala-Azar. U. N. Brahmachari.—p. 1.
Transmission of Kala-Azar. L. E. Napier.—p. 6.
Kala-Azar. D. Banerji.—p. 7.

Glasgow Medical Journal

17: 145-180 (March) 1923

Surgical Treatment of Uterine Fibroids. J. N. Stark.—p. 145.
Roentgen Rays in Treatment of Uterine Fibroids. J. R. Riddell.—p. 151.
Etiology of Eczema. J. F. Smith.—p. 160.
Glasgow Eye Infirmary: Story of Its Beginning. L. Buchanan.—p. 169.

Journal of Laryngology and Otology, Edinburgh

38: 109-146 (March) 1923

Neuro-Otologic Examination in Eleven Verified Cases of Brain Tumor. D. E. S. Wishart.—p. 109.
Cases of Otosclerosis Showing an Uncommon Symptom; Otosclerosis Paradoxus. A. A. Gray.—p. 141.
Malingering and Allied Conditions of Deafness. T. B. Layton.—p. 146.

Journal of State Medicine, London

March, 1923, **31**, No. 3

Antitoxic Treatment. T. Madsen.—p. 101.
Need for Research in Framing Tuberculosis Schemes. S. L. Cummins.—p. 120.
Pathogenicity and Treatment of Flagellate Dysentery. H. E. Whittingham.—p. 126.

Journal of Tropical Medicine and Hygiene, London

26: 71-86 (March 1) 1923

White Settlement in Tropical Australia. W. H. W. Cheyne.—p. 71.
Leptospira Icterohemorrhagiæ in Wild Rats of Warsaw. L. Anigstein.—p. 81.

26: 87-102 (March 15) 1923

Association of Certain Common Complaints as Seen in Native Hospital Patients with Presence of Microfilarle in Blood. B. J. Courtney.—p. 87.

*Epidemic Occurring Among Recruits in Training Station in Siam. M. C. Thavara.—p. 89.

Epidemic Resembling Plague Among Recruits in Siam.—The cases reported by Thavara resembled plague, dengue and typhus but could not be classified specifically. The clinical history is reviewed.

Lancet, London

1: 579-630 (March 24) 1923

*Nature of Arteriosclerosis. G. Evans.—p. 579.
Treatment of Epithelial Tumors of Urinary Bladder. F. Kidd. (To be continued).—p. 582.
*Intracardiac Injection of Epinephrin. C. Bodon.—p. 586.
*Extreme Dilatation of Left Auricle. J. G. Emanuel.—p. 591.
*Heredity in Alcaptonuria. C. F. Cuthbert.—p. 593.
*Liquid Petrolatum. H. B. Russell and P. C. Brett.—p. 594.
Tracheotomy in an Infant. E. Thorp.—p. 594.
Case of Craniocleido Dysostosis. A. B. Cocker and H. S. Sims.—p. 595.

Nature of Arteriosclerosis.—The problem of arteriosclerosis is stated by Evans as follows: Arteriosclerosis is a lesion characterized by pathologic thickening of arterial coats, particularly of the intima; inflammatory reaction is of first importance; degenerative changes are an essential part of the picture; hyperplastic and involutionary processes play a part; no unit factor is responsible for its causation. Its development in extent and form depends on a balance between the action of toxic agents and the power of resistance of the vessel wall to their attack.

Intracardiac Injection of Epinephrin.—A case of life-saving by an intracardiac injection of epinephrin is quoted by Bodon. A man, aged 56, suddenly developed cardiac dyspnea. He was in serious condition. Bodon administered 1.5 cg. morphin subcutaneously with no visible effect. As the patient began to sink rapidly, Bodon gave him every minute one or two hypodermic and intramuscular injections of camphor oil (0.2 gm.) accompanied by hypodermic applications of ether, caffein, and one of epinephrin, to the number of eight to nine injections. No improvement could be effected, and the radial pulse became impalpable. An attempted intravenous injection of strophanthin and epinephrin proved impracticable. Bodon then resolved to try an intracardiac injection—hurried to his rooms to provide himself with a long needle, and, returning within a few minutes, found that the patient had nearly passed away in the meantime. He lay relaxed and apparently lifeless in his chair, with head fallen backward; the cyanosis of lips and skin had given place to a deathlike pallor. The eyes were widely open, with largely dilated pupils; corneal reflexes were absent; there was complete loss of consciousness. Shallow inspirations at long and irregular intervals carried the air only as far as the larynx or bronchi. The radial and carotid arteries were not palpable. The systolic murmur over the heart was to be heard intermittently and the diastolic murmur was inaudible ("woodpecker's rhythm"). Respiration ceased completely, the patient passed stools and urine involuntarily, and the action of the heart definitely stopped. Bodon considered him to be dead; there was no possibility of doing any harm by an intracardiac injection. The needle, thrust cautiously through the fourth left intercostal space exactly at the sternal border, glided easily into the heart. A light, short contraction caused by the irritation of the needle touching the heart muscle was felt. Bodon emptied the syringe, which contained 1 c.c. of 1:1,000 epinephrin solution, and extracted it quickly; not a drop of blood was to be seen on the needle or at the site of injection. A few seconds later a steady improvement of the heart beat was noted, which proved regular and effective in less than half a minute. The radial pulse not only regained palpability, but was more satisfactory than when first examined. Simultaneously with the improvement of the heart's action, respiration set in with inspirations progressively deeper and more regular. Some minutes later the corneal reflexes returned, and the formerly widely dilated pupils contracted. The extreme pallor of lips and face subsided and was replaced by a dark bluish-red color, which subsequently lost its cyanotic hue as a deep, snoring respiration became established. The patient did not recover consciousness for two hours. On awakening he remembered nothing of what had happened. Two and a half hours after the injection, he could walk with assistance the few steps to his bed, feeling tolerably well but very tired. Three months after the injection, the patient felt perfectly well, as he is now in every respect. Bodon is convinced that the intracardiac injection saved this patient's life.

Extreme Dilatation of Left Auricle.—Emanuel records a case in which the heart was of such enormous size as to appear to fill the entire thorax. The great size was due to auricular dilatation and, in the main, to dilatation of the left auricle. This had dilated, for the most part, in a horizontal direction, so that during life it presented in the right axilla beyond the right edge of the right auricle and was tapped under the belief that it was a pleural effusion. Emanuel believes that the dilatation is an expression of a pathologic condition that may affect the mitral valve and myocardium at the same time, and that condition is a carditis, frequently of rheumatic origin. Pericardial adhesions are always present in these cases. The dilatation is not the result of these pericardial adhesions in the sense that the adhesions act mechanically by traction on the auricle, for the dilatation is uniform. The pericardial adhesions, like disease of the mitral valve, are merely the permanent indications of an erstwhile carditis, the brunt of which, for some unknown reason, fell on the myocardium of the auricles. The auricular walls thus weakened by an attack of myocarditis give way under the intra-auricular pressure.

Heredity in Alcaptonuria.—The father and mother in the instances cited by Cuthbert were first cousins, the father's mother and the mother's mother being sisters. The parents know of no case of alcaptonuria among their forbears. They have had six children, all of whom are alive and in good health. There have been no miscarriages or stillbirths. None of the children exhibit any structural malformation. Neither parent is alcaptonuric; of their six children, three (two boys and one girl) exhibit the anomaly. The blood Wassermann in all these cases was negative.

Liquid Petrolatum.—A report is made by Russell and Brett on the action of liquid petrolatums of widely varying viscosities. He states that a product of viscosity 230 gave more satisfactory results than one with a viscosity of 130. The authors strongly recommend that a viscosity standard of not less than 180 should be adopted. The viscosity figure is the time in seconds taken by 50 c.c. of oil maintained at 100 F. to flow out from a Redwood viscometer.

1: 631-680 (March 31) 1923

*Treatment of Duodenal Ulcer. B. Moynihan.—p. 631.
*Treatment of Epithelial Tumors of Urinary Bladder. F. Kidd.—p. 636.
*Therapeutic Action of Bismuth in Syphilis. C. Levaditi.—p. 639.
Serum Dosage in Diphtheria. C. B. Ker.—p. 642.
*Syphilis and Marriage. A. Routh.—p. 644.
*Case of Middle Meningeal Hemorrhage. A. B. K. Watkins.—p. 646.
*Case of Acute Nontraumatic Bilateral Suprarenal Hemorrhage. A. G. M. Severn.—p. 647.
Sudanese Albino. H. E. S. Stiven.—p. 648.

Treatment of Duodenal Ulcer.—More than 90 per cent. of the patients on whom Moynihan performed a gastro-enterostomy for duodenal ulcer are in excellent health. In the remainder the discomforts may almost be regarded as negligible, especially by comparison with the protracted suffering before the operation. One patient is known to have developed a jejunal ulcer subsequently. Moynihan has operated in six cases of jejunal ulcer in which no ulcer was found in the stomach or jejunum at the time the operation of gastro-enterostomy was performed. The treatment of jejunal ulcer is very difficult. Moynihan has no knowledge of an undoubted case in which the symptoms have disappeared entirely and have long remained absent after medical treatment. The immediate results of medical treatment are good, but relapses are, perhaps, invariable. The operations which may be practiced are: (1) excision of the ulcer with local repair of the anastomosis; (2) excision of the ulcer with closure of the anastomosis; (3) excision of the ulcer, closure of the anastomosis and the making of a new anastomosis, anterior or posterior; (4) excision of the ulcer, closure of the anastomosis and the performance of gastroduodenostomy; (5) gastrectomy (Moynihan has performed this operation more frequently as his experience of the condition enlarged); (6) jejunostomy. Moynihan is convinced that the operation of gastro-enterostomy has been greatly discredited in con-

sequence of its performance in grossly unsuitable conditions. The results, when the operation is undertaken for an appropriate reason, and in a suitable case, are unequalled by those of any other of like magnitude in surgery. Speaking of the after-treatment of patients on whom any gastric operation has been performed, Moynihan states that among the most harmful of habits for all these patients is smoking. An "attack" of duodenal ulcer often follows an orgy of tobacco; and many attacks are checked by abstinence from it. "Attacks" ascribed to duodenal ulcer are sometimes due only to nicotin poisoning. The close mimicry of "hunger-pain" in nicotin intoxication appears to have escaped notice.

Treatment of Epithelial Tumors of Urinary Bladder.—In cases of papilloma of the bladder of a benign type, Kidd says, diathermy, as applied through the cystoscope, holds out at least a 90 per cent. chance of cure without the risk of opening the bladder. In cases of papilloma of the bladder of doubtful malignancy, it is possible to obtain a certain number of cures by means of diathermy applied through the cystoscope. In cases of malignant papilloma, early papilliferous carcinoma, and even of very early ulcerating carcinoma of the bladder, subtotal or partial cystectomy marks a great advance in bladder surgery. It should render the old intravesical operation obsolete, except in a few isolated cases. Total cystectomy has been rendered almost obsolete by partial cystectomy, diathermy and radium. It should be reserved for cases of multiple malignant papilloma that defy other treatment, and for a few favorable cases of early carcinoma involving both ureteric openings. Ureterostomy presents almost as great risk to life as total cystectomy. When successful, it brings great relief, and it may be used as a preliminary to total cystectomy in a few favorable cases. In Kidd's opinion radium has not yet justified its claim to supersede surgery.

Syphilis Treated by Bismuth.—Investigations made by Levaditi into the toxicity of bismuth in the rabbit have shown that it required 200 mg. sodium potassium bismuthotartrate per kilogram, given subcutaneously, to kill a rabbit; intravenously, only 5 mg. were required. In oily suspension this preparation is no longer toxic. Insoluble preparations should be used for intramuscular injection. Injections should be made with a 5 c.c. syringe and a sufficiently large needle, as the liquid is sometimes thick. The most favorable region for injection is the superior gluteal area. Injections should be made alternately into either side, not too close to the site of previous injections. The intravenous route is too dangerous. The dose should be 2 c.c. (0.2 gm. of the active preparation), repeated every three or four days, until a total dose of 2.8 or 3 gm. has been reached. The series of injections should be repeated after an interval of a month, until the Wassermann reaction becomes negative. On the basis of his experience and that of others, Levaditi feels that he can maintain that sodium potassium bismuthotartrate and metallic bismuth achieve rapid cicatrization of syphilitic lesions at all stages of the disease. When used early and in sufficient quantity bismuth will cure syphilis. The absence of recurrences of the disease, and the effect on the Wassermann reaction, confirm this opinion. Equal, from a therapeutic point of view, to arsenical preparations, better than mercurial preparations, bismuth is a valuable antisyphilitic remedy, particularly in those manifestations of the disease which resist the action of arsenic and mercury.

Syphilis and Marriage.—The association of syphilis and marriage, Routh points out, is the cause of more individual, social, and national trouble than any other disease affecting family life. Obviously, syphilis and marriage should never be associated, and yet, though this is realized by health authorities, physicians, and legal experts, it is only beginning to be realized by the state and by the nation at large. The difficulties, therefore, which physicians experience when they try to prevent a syphilitic patient from marrying are largely due to the absence of general education on the subject, the inadequacy of the law of libel to protect them, and to the absence of legal penalties for one person infecting another. Routh discusses the pros and cons of notification of syphilis and of health certificates. Closing, he says, that these results prove conclusively that even if infected men and women can be prevented from marrying and having children (for syphilis does not tend to sterilize either men or women), it is possible, by treatment of the mothers during pregnancy, to have healthy children born and by continuing the treatment of the mothers and children after parturition, it is possible, in each such family, to prevent the occurrence of congenital syphilis almost entirely. Probably, this success would be rendered more certain if the father were also treated.

Bilateral Middle Meningeal Hemorrhage.—The interesting points in Watkins' case were: (1) bilateral hemorrhage; (2) laceration of the artery at the foramen spinosum; (3) ligature of the external carotid controlled the hemorrhage; (4) orbital hematoma, and (5) hyperpyrexia.

Acute Nontraumatic Bilateral Suprarenal Hemorrhage.—The symptoms in Severn's case were: sudden collapse of a woman, aged 59, who had appeared well during the early part of the day. She seemed profoundly asthenic; her temperature was 102.2 F. Face and extremities were cold and somewhat cyanosed; radial pulse was 126 per minute, irregular, "thready," and almost imperceptible. There were very marked flatulent distension of abdomen, and general loss of muscular tone. There was no vomiting, no apparent pain or localized tenderness. The heart sounds were feeble; blood pressure was greatly diminished. Her condition grew worse and death took place within three hours. Both suprarenals contained an unorganized blood clot. Microscopic examination of both suprarenals showed recent hemorrhage into the medulla causing complete disorganization of the cells, and the thin cortical layer was infiltrated with blood.

Medical Journal of Australia, Sydney

1: 225-252 (March 3) 1923

Use of Sugar Injections in Pulmonary Affections, Including the Tuberculous. J. E. F. Stewart.—p. 225.
Differential Diagnosis of Dengue Fever and Influenza. E. P. Thurston.—p. 227.
Medical Aspects of Life Assurance. R. S. Skirving.—p. 227.
*Strangulated Hernia in Infant. I. McNeil.—p. 235.
Tuberculosis of the Skin. C. Joyce.—p. 236.

Strangulated Hernia in Infant.—McNeil reports a case of strangulated inguinal hernia in a child, 6 days old, which proved to be a congenital inguinal hernia of the vaginal type. The sac contained about 5 cm. of cecum and 5 cm. of small intestine and the appendix. The child made an uninterrupted recovery.

South African Medical Record, Cape Town

21: 97-120 (March 10) 1923

Treatment and Tests Employed in Gonorrhea and Syphilis. B. Bernstein.—p. 99.
Hospital Control. R. P. Mackenzie.—p. 106.
Postpartum Hemorrhage. A. Abelheim.—p. 109.
*Removal of Uterine Polypi from Child Aged One Year and Seven Months. C. de W. Gibb.—p. 111.
Experimental Infection of Some Animals with Cercaria from Fresh-Water Snails. F. G. Cawston.—p. 112.

Removal of Uterine Polypi from Child Aged One Year and Seven Months.—When Gibb's patient was 3 months old, a vaginal discharge was noticed. This discharge continued until the patient was 8 months old, when for the first time a mass appeared at the vulva. This gradually enlarged. The growth arose from the inner surface of the posterior wall of the cervix uteri. It was amputated. Sections of this growth showed it to consist of a number of polypi, which structurally were composed of nonstriped muscle, similar to that of the normal cervix. These polypi contained abundant wide but very thin-walled blood vessels, and there had been extensive hemorrhages from many of these into the stroma of the polypus. There was no indication of anything of a malignant nature about the growth. The case is said to be especially unique because it is the only one on record.

Annales des Maladies Vénériennes, Paris

18: 97-176 (Feb.) 1923

*Urinary Elimination of Arsenicals. Lévy-Bing and Férond.—p. 97.
*Endocriné Disturbances and Nitritoid Crises. G. Lévy et al.—p. 127.
Chronic Gonorrhea without Acute Stage. Mouradian.—p. 132.
Soft Chancre with Phagedenic Bubo. Oudard and G. Jean.—p. 143.

Urinary Elimination of Some Arsenical Compounds.—Lévy-Bing and Férond studied the elimination of different

compounds of arsenic related to arsphenamin. They found that amino-arseno-phenol and the diglucosid of arsphenamin are not indicated for intravenous use, because they are too diffusible. Distribution to the body is better if they are given by mouth.

Endocrine Disturbances and Nitritoid Crises.—Lévy, Juster and Lafont found that accidents in arsphenamin injections are more liable to occur in patients with endocrine troubles. Changes in the thyroid gland may occur during treatment. Irregular menstruation, fleeting edemas, other vasomotor disturbances, and endocrine symptoms should put the physician on his guard against arsphenamin accidents. Epinephrin is an excellent remedy against them. Asthenia, fatigue in the morning, and apathy are among the minor signs of insufficiency of the suprarenals.

Bulletin de l'Académie de Médecine, Paris

89: 187-222 (Feb. 6) 1923

*Preventive Serotherapy in Measles. Méry et al.—p. 194.
*Fever and Arthropathies Due to Proteins. M. F. Bezançon.—p. 205.
*Home for Nursing Mothers in Department of Rhône. Commandeur.—p. 215.
A Physiologic Adjuvant in Treatment of Tuberculosis of Lungs. A. Knopf (New York).—p. 220.

Convalescents' Serum in Prophylaxis of Measles.—Méry, Gastinel and Joannon used inactivated serum taken from convalescents about the fifteenth day. The preventive injection is effective if given before the sixth day of incubation; otherwise it seems at least to diminish the severity of the infection. The dose for infants is 2 c.c.; 4 or 6 c.c. for older children. The dose should be larger in the later stages of incubation. They draw attention to the necessity of regulating the use of this prophylactic, and avoiding useless generalization.

Fever and Arthropathies Due to Proteins.—Bezançon and co-workers report a case of diarrhea, arthropathies and fever, which were connected with ingestion of proteins. The passage through the intestines was very quick, and the meat was not sufficiently digested. Peptone (0.2 gm.) taken one hour before the meals had a favorable influence. Another case reported was in a man suffering from gout and a pleural exudate. The punctures of the pleural cavity and especially subcutaneous injection of the fluid caused conditions resembling serum sickness.

Home for Nursing Mothers.—Commandeur reports on the home for nursing mothers at Vinatier. Only two conditions are required for admission: The girl has to acknowledge her child and has to nurse it, until it can be weaned. Absolute secrecy is kept, if desired by the mother. The home has forty-nine beds for mothers and sixty beds for infants. It is well situated, and under daily medical supervision. Motherless infants are also accepted, though they have a greater mortality than the other children.

Néoplasmes, Paris

2: 5-48 (Jan.) 1923

*Multiplex Pathology and the Cancer Problem. W. S. Bainbridge.—p. 5.
Italian Works on Cancer in 1922. G. Bolognesi.—p. 13.
*Pathogenesis of Cancer. J. Stefani.—p. 20.

Multiplex Pathology and the Cancer Problem.—Bainbridge analyzes nine cases of malignant tumors, and comments on the difference in malignancy in the course of cancers of the same structure. This may be due to a difference in their pathogenesis or to other unknown factors. A short historical survey shows that a number of other diseases have at one time been considered to be cancer.

Pathogenesis of Cancer.—Stefani exposes briefly his theory of the origin of malignant disease. He believes in the existence of unicellular germs which he calls hybridozoa because, according to his conception, they conjugate with the tissue cells of the host. The cells of the resulting tumor would thus be hybrids.

Paris Médical

13: 97-128 (Feb. 3) 1923

*Radiotherapy of Brain Tumors. A. Béclère.—p. 97
*Inhalation of Thorium Emanations. Cluzet and Chevallier.—p. 105.
*Roentgen-Ray Treatment of Hypertrophied Tonsils. T. Nogier.—p. 109.
*Radium Treatment of Hypertrophied Tonsils. F. H. Williams.—p. 110.
*Radium Treatment of Metrorrhagia. A. Siredey.—p. 113.
*Secondary Infection of Cancers. C. Regaud and S. Mutermilch.—p. 121.
*Roentgen-Ray Treatment of the Eye. Japiot and Bussy.—p. 126.

Radiotherapy of Brain Tumors.—Béclère considers the results of this treatment of tumors of the pituitary as excellent. One girl whom he treated in 1908 is well today except for reduced visual acuity. Yet vision improved after the radiotherapy to such an extent that she can do fine work. She had a pituitary tumor with gigantism, genital infantilism, obesity, headaches, dizziness and blanching of the optic papilla. About fifty cases are on record of roentgen-ray treatment of pituitary tumors. New researches have demonstrated that the pituitary itself cannot be incriminated for several syndromes formerly attributed to it. Acromegaly and gigantism are the only syndromes left to it. The other syndromes (adiposogenital dystrophy, diabetes insipidus, glycosuria) are due to compression of the base of the brain, and may subside after treatment. Radium does not compete successfully with roentgen rays in these cases. The most important aid in diagnosis is the measuring of the field of vision.

Among the tumors of the brain itself, gliomas are amenable to irradiation, while fibromas are not influenced. Tumors of the brain proper present three distinct advantages for radiotherapy: They grow slowly; they do not induce metastasis, and the normal brain cells are extremely tolerant of radiation. The limits of radiotherapy are given by the uncertainty of the localization and the difficulty of distinguishing between tumors and other affections. It should be the rule to think of syphilis first. If the Wassermann reaction in the blood or spinal fluid is positive, antisyphilitic treatment is imperative. If the reaction is negative, the physician has the right to try antisyphilitic treatment. If it fails, roentgen rays should be tried early and before the knife, except in emergency, especially in neglected cases. Irradiation may follow the operation. The introduction of radium requires extreme asepsis and an open wound. It can be applied only to exactly localized tumors, while the roentgen rays may be given a trial even in less well diagnosed cases.

Inhalations of Emanations of Thorium.—Cluzet and Chevallier's experiments demonstrated the action of thorium emanations by inhalation. They induce in rabbits an increase in the numbers of erythrocytes and polymorphonuclears, and a decrease in the monocytes and especially in lymphocytes. After a few days the number of blood corpuscles decreased.

Roentgen Ray in Treatment of Hypertrophied Tonsils.—Nogier reports permanent results with this treatment of soft enlarged tonsils. It is the method to be used in hemophilia, cardiovascular disease and nephritis.

Radium in Treatment of Hypertrophied Tonsils.—Williams prefers radium to roentgen rays in treatment of enlarged tonsils, because the dosage is exact and the radiation is absorbed almost entirely by the tonsils.

Radium Treatment of Uterine Hemorrhage Not Due to Cancer or Fibroma.—Siredey emphasizes the impossibility of limiting the action of penetrating rays to the pathologic process. Therefore he urges the necessity for restricting the indications for this treatment. Metrorrhagia may be due to general conditions, especially in young girls, and the treatment should be appropriate. Organotherapy may give excellent results. Radiation is contraindicated in metrorrhagias for which syphilis or lesions in the adnexa are responsible (ovarian cysts, salpingitis, etc.). Frequent hemorrhages following marriage stop with rest. More important are the sequelae of nondiagnosed early abortions; these are also a contraindication for radiotherapy. The latter is indicated in hemorrhagic metritis and recurring polyps near the menopause. The dose required differs in every woman: 4 millicuries may be sufficient in some while menstruation may persist in others after exposure to 16 millicuries. In women under 40, the dose at first should be 3 to 6 millicuries. This treatment should be used in young girls only in very excentional cases, yet in one of his cases thus treated a healthy infant was born some years later after several preceding miscarriages.

Secondary Infection of Cancers from Standpoint of Radiotherapy.—Regaud and Mutermilch do not consider superfi-

cial ulceration as a contraindication to radiotherapy. Deep suppuration, however, may progress dangerously under the exposures, and may poison the whole organism. Hence it is necessary to treat the suppuration first. Staphylococcus infection is influenced better by vaccines than streptococcus or pyocyaneous infection. They never witnessed any benefit from intercurrent erysipelas in cancer of the face. In cancer in the mouth, spirilla and fusiform bacilli are a frequent cause of suppuration. Local and general arsphenamin treatment is indicated in such cases. A very important point is the occurrence of local infections and ulceration in tissues that have been exposed to the rays. As this may occur even after an interval of several months (they publish three instances) it may be mistaken for recurrence of the cancer, and this might lead to a new irradiation, which would increase the injury. These lesions heal spontaneously. A histologic examination may be indispensable. Whenever signs of periuterine infection are found, which is frequent in advanced malignant disease of the uterus, radiotherapy should not be tried. Even an old infection of the kind may flare up and prove rapidly fatal (two observations). Superficial ulceration of the uterine cancer does not contraindicate radiotherapy.

Roentgen-Ray Treatment of Certain Inflammatory Affections of the Eye.—Japiot and Bussy in four years' experience have gained a favorable impression of the action of the roentgen rays in this field. The best results were obtained in interstitial keratitis, especially in its more inflammatory forms. Four or five exposures might be tried in the treatment of trachoma. Corneal lesions may occasionally improve under radiotherapy, yet the question remains whether the same results might not have been obtained without the roentgen rays.

Revue Franç. de Gynécologie et d'Obstét., Paris

18: 145-176 (March 10) 1923

*Rupture of Uterus After Pituitary Treatment. L. Pouliot and J. Truchard.—p. 145.
*Treatment of Gangrene from Criminal Abortion. G. de Rouville.—p. 157.
*Fibromas in Lower Segment of Uterus. P. Balard and J. Dehan.—p. 159.

Rupture of Uterus After Pituitary Treatment.—Pouliot and Truchard criticize the article by Rucker and Haskell in THE JOURNAL, May 21, 1921, p. 1390, "The Dangers of Pituitary Extract." They assert that the commotion which the article has caused in obstetric circles is unjustified. To begin with, they show that of the 53 observations of rupture of the uterus after pituitary treatment, which Rucker and Haskell cite, a number are duplicates, so that the actual number is only 33. In 16 of this group of 33 no particulars are specified as to the shape of the pelvis, the cervix, the presentation, etc. Excluding these 16 cases, there are 17 left which they proceed to analyze: In 9 of the cases the pelvis was not a normal pelvis; in 2 the head was not engaged in the pelvis; in one instance each the presentation was transverse, or the woman had borne an unusual number of children, or there was albuminuria in addition to the multiparity, and in 2 cases there was stenosis or rigidity of the cervix. There are thus a total of 16 cases in which the use of pituitary extract was contraindicated. This leaves only one of the total "53" compiled in which the pituitary treatment can be incriminated for the rupture of the uterus. Pouliot and Truchard remark, "This case is much to be regretted, but should we renounce the benefits of organotherapy in obstetrics on the basis of a single case?" It should be applied only when the pelvis is normal; the presentation longitudinal; the fetus completely engaged; the cervix supple, the lower segment stretched very thin; the uterine musculature not weakened by multiparity or by a preceding cesarean section; the woman free from any complications on the part of the heart or kidneys, and, finally, the uterus in *inertie utérine caractérisée*. Ability to recognize all of these conditions is not to be expected of the average midwife, and hence they reiterate the necessity for officially restricting to physicians the right to use pituitary extract in obstetric cases. This demand has already been presented to the authorities by the French Société d'obstétrique. In short, they add, "Pituitary extracts are dangerous only in the hands of those who do not know how to use them."

Gangrene from Attempted Criminal Abortion.—De Rouville reports a case of perforation of the uterus, with numerous complications, in which he succeeded in saving enough of the ovaries and uterus to enable menstruation to continue although total castration seemed inevitable.

Fibroma Praevia.—A medium sized fibroma growing from the inferior segment of the uterus may interfere with delivery or it may work upward out of the way and allow delivery to proceed unhampered. Balard and Dehan found that this latter occurred in 75 per cent. of 8 and 13 cases in which the fibroma was located in the anterior or lateral walls but only in 25 per cent. of 39 cases in which the fibroma grew from the posterior wall. Further analysis of these 60 cases suggests the wisdom of waiting for labor to decide the question. If the fibroma then shows no signs of working upward and if it is implanted on the posterior wall, it is better to operate at once; if implanted on the anterior or lateral wall, we ought not to wait for its ascent longer than three hours. A woman at term with a fibroma of the kind should be placed in an environment that will allow proper treatment of any eventuality.

Pediatria, Naples

31: 105-168 (Feb. 1) 1923

*Enuresis and Deformity of Lower Spine. O. Cozzolino.—p. 105.
Hereditary Syphilis in Naples. Ivo Nasso.—p. 125.
*Metastasis in Joints of Gonococcus Ophthalmia. V. Di Bella.—p. 146.
Ether Treatment of Whooping Cough. G. Castorina.—p. 151.
Treatment of Postdiphtheric Paralysis by Large Amounts of Antitoxin. C. Benedetti.—p. 157.

Enuresis with Deformity of Lower Spine.—Cozzolino examined the lower spine in seventeen children with enuresis and twenty-five other children normal in this respect. Occult spina bifida or other deformity was found in a large proportion of the children with enuresis. He considers this a predisposing factor for enuresis and also for pains in the region and sciatica, although the essential basis of the enuresis seems to be a neurosis. In Provinciali's case there had been enuresis in childhood, and sciatica developed later; roentgenoscopy showed spina bifida in the sacral region.

Gonococcus Ophthalmia with Metastases in Joints.—The gonococcus ophthalmia in the new-born infant was followed by swelling and pain of the joints in the hand on the eleventh day and in the ankles two days later. Other joints then became affected, but under vaccine therapy the cure was complete by the twentieth day. Gonococcus affections of the joints in infants seem to have a favorable prognosis.

Policlinico, Rome

30: 45-100 (Feb.) 1923. Medical Section

*Epidemic of Asthma from Pediculoides Ventricosus. G. Ancona.—p. 45.
*So-Called Anaphylactic Asthma. G. Petragnani.—p. 70.
Pleural Pressure and Collapse of Lung in Artificial Pneumothorax. G. Breccia.—p. 89.

Epidemic of Asthma from Pediculoides Ventricosus.—Ancona describes an epidemic of asthma resembling hay-fever among millers and peasants, who worked with corn which was infested with *Tinea granella*. Yet neither the corn nor these weevils were the cause of the disease. He was able to prove that a species of acarus (*Pediculoides ventricosus New*), a parasite of the weevils, produced the sensitization. Cutaneous reactions and a hemoclastic crisis proved valuable in differentiation. Desensitization was tried in two patients and gave favorable results. The sensitization occurred very probably by inhalation, as the millers did not eat bread from the spoiled flour. All the persons, who came repeatedly into close contact with the antigen, became sensitized.

Experimental Research on So-Called Anaphylactic Asthma.—Petragnani found in experiments on guinea-pigs that extracts of hair and pollen do not induce anaphylaxis. The leukopenia caused by intravenous injections of pollen extract is more marked, but the diminution of complement is much less pronounced than in real anaphylactic shock induced by serum. The so-called anaphylactic asthma occurs only in predisposed individuals. It is a much more complex phe-

nomenon than anaphylaxis. The hypersensitivity is natural, due to a predisposition, and is not produced by sensitization. Asthma is a derangement of the metabolism with dysfunction of endocrine glands. The predisposition is essential, but only some of the persons thus predisposed are sensitive to certain asthmogenic (not anaphylactogenic) substances. Treatment should aim to modify the general condition and thus reduce the predisposition to the asthmogenic (not anaphylactogenic) substances. General treatment, he says, does not have the slightest effect on true anaphylaxis.

Arquivos do Inst. Bact. Camara Pestana, Lisbon

5: 133-256, 1922

*Intermediate Host of Schistosoma. A. Bettencourt and I. Borges.—p. 133.
*Biologic Reactions in Congenital Syphilis. L. de Castro Freire and A. Antunes de Menezes.—p. 137.
*Bilharziasis in Portugal. A. Bettencourt and I. Borges.—p. 189.
*Antirabies Treatment in Portugal. E. Pereira da Silva and L. Figueira. —p. 231
Louis Pasteur A. Bettencourt.—p. 245.

Experimental Bilharzia Infestation. — Bettencourt and Borges report that adult schistosomas developed in mice which they had exposed to the schistosoma larvae, cercaria, from snails taken from the focus of endemic bilharziasis at Tavira in Portugal. The adult schistosomas were found in the portal vein of three of the mice, and seemed to be *Schistosoma haematobium*. The snail intermediate host was *Planorbis metidjensis*.

The Sachs-Georgi Reaction in Congenital Syphilis.—A number of tables are given showing the findings with the Wassermann and the Sachs-Georgi tests applied parallel to more than 100 children, including a number of the new-born. In the children with simple dystrophia, the response was generally negative to both tests. In the differential diagnosis of congenital syphilis, the Sachs-Georgi test seems to be less sensitive than the Wassermann, but it does not give so many nonspecific positive reactions. With active congenital syphilis, the reaction was positive with both tests in 100 per cent.

Bilharziasis in Portugal.—The discovery of the endemic focus at Tavira has already been mentioned in these columns. This is the official and illustrated report of the commission sent by the Lisbon Bacteriologic Institute to investigate it. The water from a thermal spring is used by the local washerwomen, who stand in the warm water. It provides tropical conditions for the schistosomas. The snail found to be the intermediate host is a different species from that noted elsewhere. No other focus has been discovered, although schistosomas are frequently brought into the country from Africa. See second abstract above.

Rabies in Portugal.—The report of the Lisbon institute, 1893-1920, shows 17,609 persons treated after having been bitten by animals suspected of rabies. Among the 56 deaths occurring more than fifteen days after the treatment, 3 were in adults who had been bitten by a cat. In five of the years since 1900 none of the patients died more than fifteen days after the treatment; in the other years this death rate ranged from 0.077 to 0.23 per cent. In two recent years the Högyes method was applied, but the death rate increased, and the ordinary technic was resumed. It is described in detail.

Crónica Médica, Lima

39: 507-560 (Dec.) 1922

*Polymorphonuclear Leukocytes in Sputum. E. Escomel.—p. 507.
*Prophylaxis of Peruvian Verruca. J. Arce.—p. 510.
*Chicha, the Alcoholic Beverage of Peru. N. E. Cavassa.—p. 512.
*Influenzal Colitis in Infants at Lima. O. Botto.—p. 522.
Need for Teaching Mental Hygiene. C. A. Bambarén.—p. 539.

Polymorphonuclear Leukocytes in Tuberculous Sputum.—Escomel has long made it his routine practice to examine with the microscope the sputum of every patient who has been coughing for more than two weeks. This has demonstrated that the leukocytes in the sputum are more or less degenerated early in tuberculosis. This polymorphonucleolysis may occur alone or may be accompanied with abnormal proportions of mononuclears, especially lymphocytes. The fragments of the disintegrated polymorphonuclears may be incorporated by phagocytes in the sputum. If the polynucleolysis is pronounced and the polymorphonuclear regeneration scanty, the prognosis is grave. Intense polynucleolysis with mononucleosis indicates that the organism is rallying its forces for the defense against chronic infection, tuberculosis or syphilis. With increasing weakness, loss of flesh, tenacious cough and morning expectoration, the absence of tubercle bacilli from the sputum does not exclude tuberculosis if the polymorphonuclears are seen to be disintegrated and dissolved and the mononuclears abnormally numerous. The absence of syphilis, and of other diseases inducing mononucleosis suggests possible tuberculosis.

He adds further that this diagnosis was confirmed in many cases by the appearance of tubercle bacilli in the sputum in two or three months. Hence he urges vigorous treatment at once on discovery of this polynucleolysis with mononucleosis in the sputum of a patient who is growing weak, losing flesh and coughing. "By prompt action we can block the invasion, as tuberculosis in its incipiency is the most easily cured of all diseases."

Prophylaxis of Peruvian Verruca.—Arce calls attention to this disease as peculiarly favorable for research on the conditions favoring and checking it. It is restricted to a certain small region, and intensive study of this region and of adjacent free regions may reveal the factors responsible for the prevalence of this disease and possibly of others. By stamping out this disease in its stronghold not only Peru would be benefited but other countries would be protected against invasion by it.

The Corn Liquor of Peru.—This communication was read at the recent Latin-American Medical Congress at Havana. It is a complete study of chicha and its evils.

Influenzal Colitis in Infants.—Botto relates that influenzal colitis at Lima is more prevalent during the winter and is graver than food disorders in the summer. He advises change of air and treatment with vaccines. It is graver the younger the child.

Prensa Médica Argentina, Buenos Aires

9: 685-712 (Jan. 20) 1923

*Hydatid Cysts of Brain and Spinal Cord. R. Chiappori.—p. 685.
*Infection of Enlarged Prostate Gland. A. Astraldi.—p. 692. Conc'n p. 758.
*Sciatica from Inherited Syphilis. S. Libarona Brian.—p. 699.
Pathologic Physiology of Retention of Urine in Women. A. Calmens. —p. 702.

Hydatid Cyst in the Brain.—Chiappori never fails to suspect echinococcus disease when a child shows signs of a brain tumor and comes from a cattle-raising district. Children present hydatid cysts in the brain much more frequently than adults. In Argentina the proportion is as 6 to 2. Besides the primary hydatid cyst, there may be secondary or metastatic involvement of the brain.

Infection of Hypertrophied Prostate.—Astraldi has found eosinophilia a valuable symptom of this condition, in contrast to the low numbers of eosinophils in cases of cancer of the prostate. Figures above 1.5 per cent. testify to simple infected adenoma when palpation through the rectum gives dubious findings.

Sciatica from Tardy Inherited Syphilis.—The man, aged 36, had complained for twelve years of intermittent pain and tenderness in the fifth lumbar vertebra, the pain spreading to the groin and scrotum and to the right sciatic domain and becoming continuous. For twenty years, bending and flexing the lumbar spine had been painful or impossible. Rheumatism seldom affects one joint alone, and an infectious process in the vertebra would probably have spread during this long period. The disturbances were ascribed to kidney disease by three consultants. There was nothing to suggest syphilis in the family, but under tentative treatment for syphilis all the pains permanently disappeared.

Revista de la Asoc. Médica Argentina, Buenos Aires

35: 739-869 (Nov.) 1922

Recurring Inguinal Hernias. M. Balado.—p. 739.
Hydatid Cyst in Hip Bone. A. Buzzi.—p. 756.
Retroperitoneal Fibroma in Woman A Gutierrez.—p. 761.

*Retrobulbar Optic Neuritis. E. B. Demaria and J. Layera.—p. 769.
*Grave Iridocyclitis. A. Gowland and J. A. Gallino.—p. 788.
*Hydrocephalus Simulating Brain Tumor. J. M. Obarrio.—p. 791.
Perception and Association in Aphasia. G. Bosch and A. Mo.—p. 809.
*Tumor in Cow Embryo. V. Widakowich.—p. 817.
*Action of Snake Venom on the Heart. M. A. Magenta.—p. 824.
*Bacteriophagy Without the Bacteriophagic Virus. C. E. Pico.—p. 860.
Anaerobe Found in Gas Gangrene. A. Sordelli.—p. 864.

Retrobulbar Optic Neuritis in Sinusitis.—Demaria and Layera describe a case which illustrates the necessity for consultation with the ophthalmologist and the rhinologist when there is a suspicion that retrobulbar neuritis is traceable to posterior sinusitis. They discuss the literature, diagnosis and treatment. In case of doubt it is better to open up the sinuses to drain freely into the nose.

Grave Iridocyclitis.—Gowland and Gallino were contemplating enucleation of the eye, as no measures had proved effectual. At the sixth day a daily parenteral injection of milk reduced the pain somewhat, but no benefit was apparent otherwise. Then they injected 1 c.c. of turpentine to induce a fixation abscess, and a turn for the better was manifest by the next day. By the ninth day thereafter conditions in the eye had returned clinically to normal, with vision 1/10. The fixation abscess suppurated profusely, with slight fever. It was evacuated the third day.

Lateral Internal Hydrocephalus Inducing Focal Symptoms in Rolandic Region.—Obarrio's diagnosis was confirmed by the operation. The release of the accumulation of fluid in the left lateral ventricle was followed by subsidence of all the symptoms in the girl, aged 10. The diagnosis had been based on the intracranial hypertension and hemiplegia in extension. Lumbar puncture had given no relief, and a decompressive operation alone would probably have been futile likewise. The communication between the lateral ventricle and the subarachnoid space was restored, and this provided the outlet for the superfluous fluid. The moment this communication had been made, the paralyzed leg was drawn up. The fluid was normal and the cause for the obstruction of the foramen of Monro could not be discovered. Vision had been lost in this case before the child had been brought to the hospital.

Tumor in Embryo.—Widakowich illustrates an abnormal collection of cells forming an evident tumor found in a very young bovine embryo.

Action of Snake Venom on the Heart.—Magenta's research was mostly on the frog heart, but a number of electrocardiograms are reproduced showing the action of snake venoms on the mammalian heart (dogs).

Bacteriophagy Without the Bacteriophage.—Pico reports experiments showing transmission of autolysis for the anthrax bacillus without the intervention of the supposed bacteriophagic virus. The lysant principle seems to be in the bacilli themselves. It is merely an exaggeration of the normal autolysis of the bacteria.

Archiv für klinische Chirurgie, Berlin

123: 1-864 (March 15) 1923

*Rare Surgical Affections of Bile System. Klose and Wachsmuth.—p. 1.
Drainage or Suture After Cholecystectomy? A. H. Hofmann.—p. 31.
*Erosion of Vessels by Drainage Tubes. Schönbauer and Gold.—p. 43.
*Furuncles on the Face. W. Hofmann.—p. 51.
*Testis Grafting. H. F. O. Haberland.—p. 67.
Functional Importance of Levator Ani. A. W. Fischer.—p. 105.
*Operative Treatment of Incontinence of Urine. Brjosowsky.—p. 116.
Operative Treatment of Prolapse of Rectum. H. Finsterer.—p. 124.
Surgical Anatomy of Phrenicocostal Sinus. A. Melnikoff.—p. 133.
Rupture of Dorsal Aponeurosis. G. Hauck.—p. 197.
Tendovaginitis and Snapping Finger. G. Hauck.—p. 233.
*Occupational Tendon Sheath Inflammation. E. Sattler.—p. 259.
*Operation for Cleft Palate. O. Stahl.—p. 271.
*Intravenous General Anesthesia. A. Lehrnbecher.—p. 317.
Inflammation in Costal Cartilage After Typhus. E. Busch.—p. 330.
*Caries of Costal Cartilages. Jassenezki-Woino.—p. 345.
Surgery of Prescapular Region. Ssoson-Jaroschewitsch.—p. 378.
Traumatic Dislocation of Both Shoulders. W. Pilz.—p. 400.
*Postoperative Tetanus. K. Wohlgemuth.—p. 409.
Pepsin as Resolvent of Scar Tissue. L. Frankenthal.—p. 415.
Intestinal Disturbance After Operations on Stomach. Lehmann.—p. 433.
Subsidence of Grave Brain Symptoms After Resection of Carotid Aneurysm. E. Glass.—p. 502.
Callus Formation in Relation to Anemia and Splenectomy. Schönbauer.—p. 510.
*Choice of Tracheal Cannula. P. J. Mink.—p. 516.
*Gas Peritonitis. H. Stegemann.—p. 523.
Regeneration Processes in Long Bones. C. Rohde.—p. 530.
Research on Greater Omentum in Man. E. Seifert.—p. 608.
Aneurysm of Superior Mesenteric Artery. L. Kolin.—p. 684.
Coxa Valga Luxans: Loose Hip Joint. W. Block.—p. 704.
*Genital Tuberculosis in Men. F. Rydgaard.—p. 758.
*Physical Chemistry and Surgery. H. Schade.—p. 784.
"Bone Regeneration." Böker.—p. 796. Reply. Martin.—p. 804.
*Bone and Joint Tuberculosis in Children. S. Simon.—p. 807.
Circumscribed Retroperitoneal Processes. D. Juhl.—p. 821.
*Wound Diphtheria. C. Uhlhorn.—p. 833. Idem. H. Landau.—p. 716.
Parenteral Protein Nonspecific Therapy. R. Lauenstein.—p. 842.
Fibrous Osteitis of the Skull. N. N. Petrow.—p. 849.
Operative Treatment of Esophagus Diverticulum. G. Spiess.—p. 856.
Improved Technic for Artificial Respiration. G. Kelemen.—p. 858.
Improved Technic for Suturing Bladder. C. Kamogawa.—p. 861.

Polyposis of the Gallbladder.—In the case described, the polyposis was diffuse, but one polyp acted like a valve, obstructing the cystic duct.

Klose reports that five cases of so-called white bile were encountered in 638 operative cases of disease of the biliary apparatus during the last ten years at the Frankfurt clinic. It is a sign of obstruction of the bile ducts, and removal of the gallbladder does not do away with this obstruction. He advises cholecystenterostomy by the Kausch method if the obstruction in the common bile duct cannot be removed. If the obstruction is centrad from the gallbladder, hepaticoduodenostomy is preferable.

Erosion of Blood Vessels by Drainage Tubes.—The experimental research reported indicates that there is no danger of erosion in aseptic conditions in animals.

Furuncles of the Face.—Hofmann discusses the reasons for the peculiar gravity of furuncles and carbuncles in the face. The mortality was 8.2 per cent. in the 182 cases of furuncles of the face given operative treatment during the last fifteen years at the Berlin surgical clinic in charge of Bier. The upper lip was the site of the furuncle in more than half the cases, and formed a third of the fifteen fatalities, including one of the two diabetics. Furuncle of the face may run a rapidly fatal course from the start, with thrombosis of the cerebral sinuses, uninfluenced by treatment. Conservative treatment, with hot cataplasms, possibly with Bier's passive hyperemia from a constricting band around the neck, is the treatment advised. With a large furuncle, the patient should stay in bed and the region be spared all mechanical strain. Above all, speaking should be forbidden. Physicians should inform patients of the gravity of face furuncles, and warn against picking and squeezing the furuncle. Friedemann has recently reported the success of conservative treatment in seventeen cases, including one with thrombosis of the cavernous sinus. In Hofmann's fifteen fatal cases, in three the furuncle had been incised by others, and in five the patients themselves had squeezed or otherwise maltreated the furuncle. Omitting these cases, the mortality of the 174 treated by conservative measures alone was only 4 per cent.

Testis Grafting.—Haberland reports experiments on 56 animals including 2 pigs, 3 cats and 5 dogs, giving photomicrographs of the findings in some of the animals. In connection with this report he gives a table of the known instances of testis transplantation in man, with the outcome, from Lespinasse and Lydston to Gregory and Stabel in 1922. His conclusion from all this material is that we must constantly bear in mind that the glands with an internal secretion, the testes included, form a system, a whole. If any part of this system drops out, the whole—if conditions are favorable—may be able to compensate vicariously the missing function. "If this theory of suggestion and vicarious compensation does not appeal to the reader, there is a further assumption possible, namely, that the wound hormones from the engrafted testis may have a stimulating action on the entire organism, and hence on the other glands of the endocrine system."

Operative Treatment of Incontinence of Urine.—Brjosowsky slits a strip up from the levator ani on each side and overlaps and sutures to the opposite side these pedunculated strips. They thus form an elastic band pressing on the urethra. This method can be applied to both the male and female urethra. The technic is illustrated.

Tendon Sheath Inflammation as Occupational Affection in Hand or Foot.—Sattler describes a large variety of synovial disturbances liable to develop from occupational strain. The

affection is observed in locksmiths, joiners and brakemen, in women who do much pressing or rubbing, and in children learning to write. He gives details of four clinical cases. Even a history of syphilis and positive Wassermann reaction do not stamp the affection as of syphilitic origin; in one such case the lack of benefit from antisyphilitic treatment finally cleared up the case. Then treatment was begun according to Calot's methods: The fluid was released by puncture, and a solution injected of guaiacol, 2 parts; creosote, 8; iodoform, 20; ether, 65, and oil of sweet almonds, 100 parts. In one case the fluctuating swelling over the metatarsophalangeal bursa in the young woman had recurred at intervals during two years. The diagnosis of hygroma bursae hallucis is generally made in such cases, and resection is advised; this leaves cicatricial changes which are often the cause of disturbances. After two or three days of rest for the foot, Sattler merely punctured and injected 1 c.c. of the Calot solution, and the cure was prompt and permanent, without cicatricial tissue.

Cleft Palate.—Stahl gives the ultimate outcome in forty-two cases recently reexamined after a plastic operation according to Langenbeck. In 54.7 per cent. the results were excellent; in 49.5 per cent. the cleft was only partially closed, and in 4.8 per cent. the operation was a failure. In one case the defective speech of the boy aged 9, after unsuccessful attempt to correct the deformity, was duplicated by a younger brother whose palate was normal, but the defective speech was functionally reproduced by imitation. Between the third and sixth year seems the most favorable period for the operative correction of cleft palate, and the Langenbeck method the preferable technic. He describes it in detail.

Intravenous General Anesthesia.—Lehrnbecher reports on 850 cases in which the Burkhardt method of intravenous anesthesia has been applied at Nürnberg. He says it is harmless; the drawbacks are the rather complicated technic and the slight exaggeration of the tendency to bleed.

Operative Treatment of Caries of Costal Cartilages.—The usual methods of treating progressive necrosis of the costal cartilages entail fistulas, and less than half of the patients are finally cured, after long martyrdom. Woino attacks the process radically from the first, removing the entire set of cartilages with one or two beyond the diseased ones, far into sound tissue. The incision for this is a deep semicircle, extending from the middle of the sternum vertically two fingerbreadths below the costal arch and then swinging up and out to the side. He has thus operated eighty times in a total of sixty-five cases, with ten deaths. All the other patients with two exceptions—who refused the complete operation—were promptly and permanently cured.

Tetanus After Operations.—Wohlgemuth relates that tetanus developed in two cases after an operation on the small intestine in Unger's surgical service at Berlin. The tetanus was speedily fatal. Mice inoculated with feces from one of the cases, a woman aged 27, developed tetanus; no bacteriologic examination was made in the male case. His study of the literature seems to show that postoperative tetanus is most liable to develop after operations on the intestines, and he suggests that the infection is traceable to tetanus bacilli already in the bowel at the time. Under ordinary conditions they are harmless saprophytes, but the trauma of the operation rouses them to virulence. He urges in consequence that at all operations severely injuring or opening the bowel, tetanus antitoxin should be injected beforehand as a routine prophylactic measure.

Choice of Tracheal Cannula.—Mink's article was summarized recently on page 1280 when published elsewhere.

Gas Peritonitis.—Stegemann adds a new case to the three —which are all that he has been able to find on record—of accumulation of gases in the abdominal cavity to such an extent as to threaten life. The gases had developed in his case in the course of gangrene of the abdominal walls, but the pulse remained good. The incision for enterostomy released an enormous amount of odorless gases. The bowel seemed to be normal although squeezed nearly flat.

Tuberculosis of Genital Organs.—Rydgaard analyzes the experiences in Rovsing's service at Copenhagen with 77 cases of tuberculosis of the male genital organs given operative treatment. The superior advantages of epididymectomy are established by the outcome, but the epididymis must be removed as a whole and the central end of the vas deferens sutured to the skin. The earlier the operation is done the better the outlook for preventing spread of the process to the other side. Trauma seemed to have been a predisposing factor in a number of the cases, but not preceding gonorrhea. Epididymectomy on one or both sides did not seem to affect the sexual life, but unilateral castration with epididymectomy on the other side had a depressing influence on the sexual sphere. No light is thrown by these experiences on the question as to a rejuvenating influence from the operations.

Physical Chemistry in Relation to Surgery.—Schade points out that the colloidal state of the fluids of the body and the condition of the ions are of extreme importance to surgery. "We should turn from research on the cells and their granules to study the colloids and the ions." As an instance of what we can expect from this, he recalls that by freshening with a knife the rudimentary eyes of an embryo and pushing the two into contact, a single eye results, a cyclopean eye But what is realized here with the knife can be done equally well by physical chemistry: Addition of a certain proportion of magnesium chlorid to sea water containing fish embryoes, induces colloidal changes which result in the development of a cyclopean eye. The knife and the ions thus accomplish the same result by different means.

Tuberculosis in Bones and Joints.—Simon states that 126 were discharged from the children's sanatorium as cured, of the 357 that have been under treatment; 22 have died, and 82 failed to complete the course. Of the 33 who have been kept under observation for years since their discharge, only 2 have shown any signs of recurrence.

Wound Diphtheria.—Uhlhorn insists on the importance of early recognition and antitoxin treatment of diphtheria infection of a wound, as the diphtheria is liable to entail post-diphtheric paralysis, besides the danger of infecting others. If bacteriologic examination gives dubious findings, inoculation of animals should not be omitted.

Münchener medizinische Wochenschrift, Munich

70: 105-136 (Jan. 26) 1923

*Blood Circulation and Nutrition of Tissues. A. Bier.—p. 105.
*The Menopause. J. Halban.—p. 110.
Treatment of Septic Conditions. H. Eufinger.—p. 112.
*Thyrogenous Constipation. G. Deusch.—p. 113.
Spasm of Sphincters of Digestive and Urogenital Tracts. K. Helly.—p. 115.
Treatment of Stasis in Lower Extremities. H. Fischer.—p. 116.
Separate Opening for Drainage, Especially in Gallstone Operations. H. Hans.—p. 117.
Tuberculin Injury. F. Hamburger.—p. 119.
"Torsion of Internal Organs." H. Sellheim.—p. 119.
Systematic Eugenics. F. Hueppe.—p. 122. Idem. Lenz.—p. 123.
Diagnosis of Ileus from Strangulation. A. Krecke.—p. 123.

Blood Circulation and Nutrition of Tissues.—Bier adheres to Galen's, Bichat's and Virchow's opinion that the organs attract to themselves the necessary blood supply. The common opinion postulates that "naturally" the arterial blood is essential and the venous injurious to a good nutrition. He discovered that things which are considered natural, even by scientists, are frequently very unnatural. Nature has with its investigators, the same troubles as the Creator with his theologians: Nature and the Creator have to behave as these people prescribe. But in reality they don't. There is a difference between nutrition of a working organ (muscle), which needs a quick stream of highly arterialized blood, and the nutrition which serves to conserve and recuperate existing tissues. The recuperating tissues get along very well with a slow stream. The blood supply is only a secondary factor in the nutrition and regeneration of tissues. The primary agent is a pathologic stimulus. An organ which is in danger from lack of nourishment, draws blood forcibly from the general circulation. This capacity is independent of the blood pressure or the size of the afferent artery, and of the nervous system. He recalls his old experiments on pigs with severed arteries, and adds several new on arterio-

sclerotic limbs. The wound on an extremity which has been treated with a constricting band bleeds only after the previously anemic tissue has supplied itself with blood. In a limb that has not been constricted, the arteries bleed immediately The general assumption is the contrary of these facts.

He takes up again his old term "blood sense," *Blutgefühl,* and finds that it is restricted to the external parts of the body, which are more liable to get injured or have their blood supply impaired. The internal organs, especially the intestines, have no blood sense. Therefore the internal organs (heart, kidney, brain) suffer from arteriosclerosis more than the extremities, even if the latter are more severely affected. Organs without blood sense have no sensibility. The attraction of the blood by the blood sense is more efficient, and requires less energy than the pumping of the blood by the blood pressure.

The Menopause.—Halban has found that older women, as a rule, bear stronger children than young ones. He ascribes it to the increase in the size of the ova which he found in lower animals. The teleologic view would relate the menopause to the fact that children need care much longer than young animals. An old mother could not provide for them long enough. The loss of ovarian secretion causes certain disturbances in the metabolism, especially of calcium and fat, and the irritability of the sympathetic nervous system is increased. Psychic changes are not only of pathologic nature. Hysterical symptoms may disappear about this time in women. The bleeding in the preclimacteric period is important. If there are symptoms of a diminished ovarian function only between the bleedings, one may assume menstruation and not metrorrhagia. Yet a curettement is frequently necessary for diagnosis. Venesection has a favorable action on hot flashes. Hydrotherapy, theobromin and organotherapy may give good results. The ovaries should be respected and treated as conservatively as possible.

Thyrogenous Constipation.—Deusch finds that constipation may be due to hypothyroidism.

Zeitschrift für Geburtshülfe und Gynäk., Stuttgart

85: 469-672 (Feb. 10) 1923

*Obstetric Examination Through Rectum. W. Fürst.—p. 469.
*Hemeralopia of the Pregnant. E. Klaften.—p. 485.
*Local Anesthesia in Operative Gynecology. R. Zimmermann.—p. 502.
The Interstitial Ovarian Gland in the New-Born. J. Matsuno.—p. 523.
*Ratio of Sexes at Birth. R. Tauber.—p. 539.
*Origin of Genital Flora. III. R. Salomon.—p. 554.
*Asphyxia of Cesarean Section New-Born Infants. H. Küstner.—p. 567.
Placenta Praevia. R. Freund.—p. 581.
Pregnancy Cardiac Arrhythmia. Schubert.—p. 593.
*Hydrops and Eclampsia. Zondek.—p. 600.
*Fatality from Transfusion of Own Blood. Schäfer.—p. 607.
*Permanent Cure of Ovarian Cancers. Schäfer.—p. 613.
Paravaginal Radium Treatment. Bumm.—p. 624.
*Rehabilitation of Alexander-Adams Operation. Bumm et al.—p. 631.

Obstetric Examination Through the Rectum.—Fürst outlines the conditions in which the examination must be vaginal: disproportion between the size of the presenting part and the lumen of the pelvis; essential hemorrhage and erythrocytes in the urine during delivery (as this indicates crushing of the bladder mucosa). Under other conditions, examination through the rectum is sufficiently informative; it is fully as instructive as a vaginal examination with two fingers. He advises using half the hand or the whole hand for vaginal examination. He reiterates that hemorrhages with pathologic childbirth entirely exclude rectal examination. He makes a practice of testing the vaginal secretions for the gonococcus as soon as the woman enters the maternity ward. If the gonococcus is found, the rectum is left unmolested. This practice has the further advantage of often explaining eventual fever. Students should be taught the exact indications for and limitations of examination by rectum and vagina.

Pregnancy Hemeralopia.—Klaften cites some cases from the records, and gives the details of seven personally observed. The night blindness usually develops during the last few weeks or days before delivery, but in two of his cases it began early and persisted throughout the pregnancy. It always subsided harmlessly after delivery. Protection against the light may be advisable.

Local Anesthesia in Operative Gynecology.—Zimmermann reviews the aims and limits of local anesthesia, his conclusion being that for laparotomies general anesthesia is preferable. Infiltration anesthesia has special advantages for vaginal operations, but the intraspinal, paravertebral and nerve blocking technics have too many drawbacks, or are ineffectual for gynecologic operations.

Ratio of the Sexes at Birth.—Tauber includes the miscarriages and abortions in a total of 89,071 births at Vienna. The figures do not differ essentially from the usual average 100: 106 ratio.

Origin of the Genital Flora.—Salomon has continued his bacteriologic research on new-born infants, examining the vulva, mouth, rectum and vagina at brief intervals.

Asphyxia of Infants Delivered by Cesarean Section.—Küstner's experiments on rabbits have apparently established that the anesthetic given the mother for the cesarean section is responsible for the condition of the offspring delivered in this way. The respiration is shallow and infrequent and the heart action may be modified—all resembling the condition in adults given too much anesthetic. The anesthetic reduces the sensibility of the nerve centers to carbon dioxid, so that when the child is extracted, the physiologic process of respiration does not come properly into play. This occurs in an even more pronounced form when the mother has been given morphin (twilight sleep), as the new-born are more susceptible to morphin than to ether and chloroform. A third factor also cooperates to induce asphyxia in the cesarean section infants: In normal deliveries, the circulation in the uterus, and hence the supply of oxygen to the fetus, is shut off more or less during the labor pains. The blood is overloaded with carbon dioxid, and this would stimulate the respiration center to initiate respiratory movements if it were not that, as the labor contraction subsides, the blood and oxygen reach the fetus. There is thus an intermittent stimulation of the respiration center which, he argues, acts as a kind of preliminary training of the respiratory apparatus, which facilitates the child's breathing when it finally emerges into the atmosphere. Children delivered by cesarean section lack all of this preliminary training. They are born unprepared, and have not learned how to breathe. Successful treatment of the asphyxia requires artificial respiration (Schultze swinging).

Hydrops and Eclampsia.—Zondek presents evidence to refute the assumption that water is the essential eclampsia toxin, inducing the convulsions by the edematous swelling of the brain. He describes cases of eclampsia in which there was apparently no tendency to hydrops.

Fatal Outcome of Retransfusion of Own Blood.—Schäfer comments on the often life-saving action of reinfusion of the woman's own blood after ruptured tubal pregnancy. The procedure has been applied in his service in twenty cases, and in three of them the women would evidently have succumbed otherwise. It is not always harmless. Besides slight disturbances, Opitz has reported jaundice in one case, and Bumm, chills and fever in two; Arnim a case with cyanosis and chills, and Schweizer a case of fatal hemoglobinuria. Schäfer adds another fatal case to the list. The woman aged 40 reached the hospital unconscious. Puncture of the abdomen showed a large quantity of fluid blood. The pulse was still imperceptible after intravenous injection of 300 c.c. of saline; then 500 c.c. of citrated blood from the abdomen was filtered through gauze and transfused in a vein in the arm. The pulse did not improve but the lips showed a better color. A severe chill followed, that lasted for an hour and a half, followed by transient hemoglobinuria. The condition gradually improved, but the next day the pulse ran up to 140 and the heart grew progressively weaker. The transfusion seemed to be responsible for this fatality. Probably the blood had been shed too long, although Lichtenstein has been successful with transfusion from four to nine days after the first extravasation. In Schäfer's case, the interval after the first hemorrhage had been forty-eight hours, and only a few hours after the hemorrhage that had rendered the woman unconscious. As the blood looked rather dark, he tried saline infusion first. Only after this failed, the blood was trans-

fused as a last resort. The liver and kidneys showed evidences of recent degeneration which he ascribes to the toxic action of the transfused blood.

Permanent Cure of Ovarian Cancer.—Schäfer relates that of ninety-nine women given operative treatment for ovarian cancer from five to ten years ago, 13.13 per cent. have been permanently cured to date.

The Alexander-Adams Operation and Ventrixation.—Bumm and others spoke at the meeting of the Berlin Gynecologic Society on the rehabilitation of the Alexander-Adams operation and ventrifixation. A lively discussion followed; the whole is reproduced.

Zentralblatt für Chirurgie, Leipzig

50: 377-424 (March 10) 1923

Interpretation of Roentgenogram in Hallux Valgus. Weinert.—p. 377.
*Dilation of Esophageal Stenoses. H. Kurtzahn.—p. 381.
*Bismuth Stone in the Appendix. A. Mülleder.—p. 384.
Idiopathic Hyperplasia of Spleen Follicles. L. Fiedler.—p. 385.
Flooding of the Pulmonary Circulation with Mercury. Esau.—p. 388.
Secondary Cysto-Urethrorectal Fistula After Suprapubic Prostatectomy. E. Stark.—p. 389.
"Incarceration of Intestine in Glass Tube." F. Franke.—p. 392.
Treatment of Postoperative Intestinal Paralysis. F. Franke.—p. 392.
"Deutschländer's Tumors of the Metatarsus." Blencke.—p. 395.

Dilation of Esophageal Stenosis.—Kurtzahn recommends metal olive-shaped beads for dilation of the stenosis. The polished metal is smoother, is more easily sterilized, and is cheaper than bone or ivory, which have been formerly employed. The long olives are strung on a string, each bead being slightly larger than the last, until a size is reached that will just pass the stenosis without too much traction; other olives are then added in the reversed order of sizes. The symmetrical arrangement on either side of the largest olive makes it possible to use the see-saw movement to advantage. Kurtzahn regards the blind use of a sound in any serious stenosis of the esophagus, without the employment of a pathfinder, as a gross violation of technic, since the danger of perforating the wall of the esophagus is very great. Also in stricture of the urethra, he has found this necklace bougie occasionally of great value.

A Bismuth Calculus in the Appendix.—Mülleder reports the case of a man aged 43 who when admitted to the hospital complained of general abdominal pain attended by vomiting. As was learned later, two years previously he had been examined with the roentgen rays for gastric ulcer. He was operated on for appendicitis; when cut open the appendix was found to contain, enclosed in a membranous capsule, a whitish yellowish calculus, 1.5 cm. thick and 4 cm. long, apparently encapsulated bismuth. Mülleder refers also to Kummant's finding of a bismuth calculus in the stomach during gastric resection. He reports also the formation of a calculus in a physician aged 73, following a bismuth meal for roentgen examination. Three days after the examination the patient brought to him a bismuth calculus as large as a man's fist, which he had removed from the rectum himself after two hours of effort with the aid of an instrument, not without considerable injury to the anal opening.

Zentralblatt für Gynäkologie, Leipzig

47: 337-384 (March 3) 1923

*Rectal Injection of Ether in Childbirth. Thaler and Hübel.—p. 338.
Anatomic and Topographic Considerations for My Operative Method in Vaginal Defect. G. Schubert.—p. 347.
*Spontaneous Intra-Uterine Rupture of the Cord. Geller.—p. 353.
*Retention of Umbilical Cord. F. Heinlein.—p. 356.
Myomas and Carcinomas of the Tubes. P. Schäfer.—p. 357.
Treatment of Prolapse of Female Genitals by Wertheim-Schauta Method. Goldberg.—p. 362.
Extraperitoneal Exposure of Ruptured Uterus. Lemperg.—p. 367.
"Rupture of Uterus without External Sign." Neuwirth.—p. 369.

Oil-Rectal Administration of Ether in Childbirth.—Thaler and Hübel report the results in 100 cases of childbirth in which a mixture of 90 gm. of ether and 120 gm. of olive oil was employed. In 88 of the cases the results were very satisfactory, and in only 4 cases did the method prove an absolute failure. In 80 of the 100 cases normal or very strong labor contractions were noted. In some cases the labor seemed to be even improved by the injection of the ether-oil mixture. In the other 20 cases labor was reduced by the injection. In these cases, quinin or pituitary extract was used as an adjuvant, mainly in order, by shortening the duration of the birth, to lessen the consumption of ether. The average duration of the birth was for the 73 primiparas 20¾ hours; for the 27 multiparas, 10¼ hours. In all cases in which the sleep was profound, the women did not strain, and consequently the expulsion period was no doubt prolonged. No anomalies of the afterbirth period were observed; 84 of the children were in normal condition at birth and cried immediately; 14 were apneic for a short time, though they looked well and began to breathe normally at the end of five minutes, at the most, without any special attempts at resuscitation being necessary. In 2 cases the infants were suffering from typical asphyxia. Of these, one (a spontaneous birth) was revived in a short time; the second (a forceps delivery) could not be resuscitated. In the majority of cases, during the intervals between labor contractions the patients lay as if asleep, but during the labor contractions they were slightly restless and would groan occasionally. As during twilight sleep, the women received physical impressions but could not retain them in the memory. Ether-oil injections should be given only in hospitals where the patient can be under constant observation and any emergency promptly met.

Spontaneous Intra-Uterine Rupture of the Cord During Labor.—Geller reports a case of spontaneous rupture of the cord, and in that connection recalls the causes and circumstances surrounding such cases. It occurs most frequently in precipitate labor; according to Winckel in 19 per cent., and, according to Hellhake, in 34 per cent. of such cases. Favoring circumstances, aside from precipitate labor, are abnormal shortness, looping of the cord about the fetus, velamentous insertion of the cord, knots or varices of the cord, and reduced resistance of the umbilical cord to traction, which according to recent investigations is doubtless dependent on the nature and the filling of the vessels and not on the amount of whartonian jelly present, as older writers believed. Of course, the cords of premature and macerated children are more easily ruptured than those of mature infants. The site of the tear varies. The mother also incurs a certain danger, since the same factors that lead to the rupture of the cord may bring about a premature total or partial loosening of the placenta or, in very rare cases, inversion of the uterus.

Retention of the Umbilical Cord.—Heinlein reports a rare instance in which the umbilical cord remained in the uterus although the placenta had been expelled without difficulty by the Credé method. The placenta itself was intact, but showed no place of insertion of the cord, so that it was evident that it was a velamentous insertion. The retention of the cord was caused by adhesion of the fetal membranes to the uterine wall in the region of the insertion. The adhesion was so firm that the fetal membranes with their blood vessels were torn loose at the margin of the placenta, when the placenta was expelled. The cause for this occurrence must doubtless be sought in inflammatory changes in the decidua and the other fetal membranes; the premature rupture of the fetal membranes was probably due to the same cause.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 1074-1188 (March 17) 1923

*Digestion Leukocytosis and Leukopenia. J. C. Schippers and Cornelia de Lange.—p. 1074.
*Intra-Ocular Pressure in the Two Eyes. E. Marx.—p. 1082.
*Exostosis on Os Calcis. C. B. Tilanus, Jr.—p. 1095.
*Intracardiac Injection of Epinephrin. J. Exalto.—p. 1098.
Case of Atresia Ani Vesicalis. J. P. Asjes.—p. 1106.
Share of Syphilis in Progressive Spinal Muscular Atrophy. Bolten.—p. 1107.
Functional Tests of the Liver. J. Hekman and J. J. van Leeuwen.—p. 1111.
*Measures Needed for Fight Against Tuberculosis. J. Sanders.—p. 1150.

Digestion Leukocytosis and Digestion Leukopenia.—Schippers and de Lange present here their second report on research in this line. They tabulate the findings including the Arneth differential count, every twenty minutes in five infants and three older children, all healthy. There does not seem to be any regular standard either for the leukocytosis

or the leukopenia. The white blood picture seems to be subject to so many influences, mechanical and others, that only extreme variations can be regarded as significant if at all. "In these days of relativity," they remark in conclusion, "the leukocyte findings can be considered only in connection with all the other possible data."

Difference in Tension of the Two Eyes.—Marx had occasion to measure the intra-ocular pressure of large numbers of healthy eyes, and was struck by the difference in the tension of the two eyes in many persons. He noted also that the tension was highest in the left eye as a rule. He discusses the reason for this, both in righthanded and lefthanded persons. In 41 cases of primary glaucoma, the left eye was affected first in 16, the right in 17, and both together in 4. Embolism in the retinal arteries occurs more frequently in the right than in the left eye. These two paradoxic facts show that other factors besides the primary tension are involved.

Exostoses on Os Calcis.—Tilanus describes a few cases in which the pain and discomfort from the "calcaneum spur" were cured by an insole and recess in the shoe, relieving the spur from pressure. In some of the cases the cause of the discomfort was first revealed by the roentgen rays. In several cases he removed the exostosis.

Intracardiac Injection of Epinephrin.—Exalto relates that an infant aged 6 months collapsed during general ethyl chlorid and ether anesthesia while an extensive angioma on the forearm was being cauterized. Artificial respiration and massage of the heart for four minutes failed to restore the breathing or heart action. The child was livid, the intensely dilated pupils did not react to light, and dejecta escaped from the sphincters. As a last resort, he injected 0.7 c.c. of a 1:1,000 solution of epinephrin directly into the heart, introducing the needle in the fourth interspace, close to the sternum. He turned to lay the needle aside and when he looked at the child again, the livid color had given place to the natural tint, and in a few seconds the heart began to beat forcibly, the pupils contracted, and respiration became regular. He reviews the cases on record of resuscitation after intracardiac injection of epinephrin. When the heart had been arrested for ten or fifteen minutes, the damage had been irreparable and although the subject was revived, the resuscitation was only transient. Six minutes seem to be the longest interval that allows of recuperation; two minutes was the shortest in which the injection was made. The dangers of the procedure are the possibility of injuring the internal mammary artery or a coronary artery and the pleura. In Esch's case the patient was resuscitated by the injection but succumbed seven hours later to the effects of the pneumothorax which had been induced; it is easy to avoid this. It seems best to inject the drug directly into the ventricle. The aspiration of blood shows when the ventricle is reached; it was at a depth of 2 cm. in this infant; in adults the depth is about 4 or 4.5 cm. In the permanently successful cases, epinephrin had always been used.

The Fight Against Tuberculosis.—Among the seven measures which Sanders considers indispensable is that the sputum of elderly persons with chronic bronchitis should be rendered harmless as if certain that it contained tubercle bacilli, which it often does. Other measures are the optional segregation of bacilli spreaders, the creation of sanatoriums convenient to the cities, compulsory notification even of the suspects, and provision of school lunches.

Hospitalstidende, Copenhagen

66: 153-168 (Feb. 21) 1923

*Abortive Treatment of Syphilis. H. Boas.—p. 153.

Abortive Treatment of Syphilis.—Boas classifies, according to the treatment applied, several hundred cases of incipient syphilitic infections given abortive treatment with arsphenamin alone or with mercury. All have been under supervision since for from two to eleven years. His data prove the incorrectness of the assumption that the disease can be considered cured when two years have elapsed without serologic or clinical manifestations of the infection. He has witnessed recurrence of symptoms after a free interval of seven years. The only certain sign that the disease is cured is reinfection, with a typical primary lesion. This occurred in twelve of his patients; eight had been treated with a total of 1 gm. of arsphenamin and fifty mercurial inunctions. The interval before the reinfection ranged from nine months to seven years. The fact that the spinal fluid is apparently normal after the abortive treatment does not exclude neurosyphilis later. A later preventive course of mercurial treatment seemed to reduce slightly the proportion of recurrences, but the number is too small to be decisive. His final conclusion is that the experience to date in all countries is in favor of as vigorous treatment as possible, begun as early as possible, with arsphenamin or silversalvarsan supplemented by mercurial treatment. Neo-arsphenamin did not prove so effective in abortive treatment in his experience, but this may have been due to inadequate doses.

Hygiea, Stockholm

85: 33-64 (Jan. 31) 1923

*Pulmonary Edema After Thoracocentesis. S. H. Lindblom.—p. 36.
*Case of Spirochetal Jaundice in Sweden. H. Lapidus and A. Flaum. —p. 40.
*Queckenstedt's Sign of Compression of Spinal Cord. E. Sahlgren.—p. 53.

Pulmonary Edema After Thoracocentesis. — Lindblom released about 2 liters of effusion from the right pleura in the young man. He had been confined to bed for several months with pericarditis. The pericarditic effusion had been gradually resorbed. The thoracocentesis had been done in the home and two and a half hours later emphysema and pulmonary edema developed. Lindblom had no apparatus for artificial pneumothorax and the emergency called for quick work. He therefore plunged an ordinary cannula into the needle hole, and, after a few drops of fluid had escaped, air streamed into the pleura. When the patient coughed, he shut off the air with his finger on the cannula, as an improvised valve. The patient was given injections of camphor and morphin, and the cough was arrested at once. In an hour Lindblom withdrew the cannula and injected with a syringe more air, to induce a little overpressure. A tight bandage was applied to the chest, with a pad to press on the needle hole. The coughing after the thoracocentesis had expelled the air and the negative pressure in the pleura exaggerated the cough, a vicious circle which entailed pulmonary edema, or it may have followed at once on the change in pressure after the thoracocentesis. Treatment should aim to restore the previous pressure conditions in the chest. With heart disease, extreme caution is necessary with thoracocentesis; it might be better to release only a little fluid at a time. In this case the thoracocentesis had been done very cautiously, taking nearly an hour for it.

Spirochetal Jaundice in Sweden. — Lapidus and Flaum found *Spirochaeta icterohaemorrhagiae* in a case of Weil's disease at Lund. It was the first time this spirochete has been discovered in Sweden. It was not isolated directly, but only from the guinea-pigs inoculated with the urine, the animals all developing typical spirochetal jaundice.

Sign Revealing Compression of the Spinal Cord.—Sahlgren gives the details of six cases of tumors or inflammatory processes compressing the spinal cord in which the Queckenstedt sign was pronounced, and afforded valuable information. In some of the cases it was the only diagnostic sign available. The patient reclines for the lumbar puncture. Then the veins in the neck are compressed on one or both sides. In normal conditions the spinal fluid shows an abrupt rise in pressure as this is done, but with a tumor or other process compressing the spinal cord and obstructing the passage there is no or very slight and sluggish rise in the pressure. This sign occurs very early. Long before there is actual compression of the cord, the swelling of the tissues closes the lumen of the spinal canal more or less completely, and the Queckenstedt sign is positive.

Ugeskrift for Læger, Copenhagen

85: 161-184 (March 8) 1923

Epidemic Meningitis in Greenland, 1920. F. Wirring.—p. 161.
Viscera-Skin Zones of Anemia. T. B. Wernøe.—p. 166.
Intestinal Infection as Cause of Diabetes. O. M. Henriques.—p. 171.